DOCUMENT RESUME

ED 366 638 TM 021 039

AUTHOR	Hecht, Jeffrey B.; And Others
TITLE	Project Homeroom, Second Year Experiences: A Final Report on the Project in the Maine East High School, New Trier High School, Amos Alonzo Stagg High School.
INSTITUTION	Illinois State Univ., Normal. Technological Innovations in Educational Research Lab.
PUB DATE	15 Nov 93
NOTE	109p.
PUB TYPE	Reports - Descriptive (141) -- Tests/Evaluation Instruments (160)
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	Access to Education; *Computer Uses in Education; Cooperative Learning; Educational Change; *Educational Technology; High Schools; Information Retrieval; Instructional Materials; Interaction; Interdisciplinary Approach; Interviews; Parent Participation; *Parent Teacher Cooperation; Program Evaluation; School Business Relationship; Surveys; *Technological Advancement; *Telecommunications; Word Processing
IDENTIFIERS	Illinois (Chicago Metropolitan Area); *Project Homeroom IL

ABSTRACT

Project Homeroom is an innovative attempt by several Chicago-area schools, International Business Machines, and Ameritech to introduce state-of-the-art computing and telecommunications resources into the educational environment. This report details the second and final year's efforts in three high schools. An evaluation team from the Technological Innovations in Educational Research Laboratory has studied Project Homeroom since 1991, using direct classroom observation, written surveys, personal and group interviews, and the examination of records to develop an understanding of the project. Several key issues were identified, the first being that innovation of this sort takes time to accomplish, time for teachers to learn about technology, and time for teachers and students to accept change. It is apparent that Project Homeroom improved student and parent access to teachers, and that interdisciplinary instruction and cooperative learning are an important part of Project Homeroom's success. Three dominant uses of the technology were recognized: (1) word processing; (2) telecommunications for electronic mail communication and information retrieval; and (3) the preparation and presentation of nontext materials. It also appears that teachers involved in the project interacted with each other more than they had before. Project Homeroom is recognized as a successful combination of technology and people. Twenty-four graphs and five tables present evaluation findings. Four appendices contain the parent surveys. (SLD)

ED 366 638

Project Homeroom
Second Year Experiences

A Final Report on the Project

in the

Maine East High School
New Trier High School
Amos Alonzo Stagg High School

November 15, 1993

by

Principal Investigator: Dr. Jeffrey B. Hecht

TIER Lab Research Assistants: Mr. David J. Dwyer
Ms. Nicole K. Roberts
Mr. Perry L. Schoon

U-High Faculty Associates: Mr. James Kelly
Mr. Jerry Parsons
Ms. Teresa Nietzke
Mr. Mike Virlee

Technological Innovations in Educational Research Laboratory
Department of Educational Administration and Foundations
College of Education at Illinois State University

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Jeffrey B. Hecht
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

TM021039

BEST COPY AVAILABLE

Acknowledgements

The accomplishment of innovation is never quick nor is it usually easy. It takes the hard work of many dedicated individuals, both those in the direct spotlight and others working in the background. The research team of the Technological Innovations in Educational Research (TIER) laboratory was proud to have been able to work with and study such hardworking individuals, and to witness such a dedicated effort this past year in the Maine East, New Trier, and Amos Alonzo Stagg High Schools. Although the first year of Project Homeroom in these institutions did not, in many ways, live up to the expectations of many of the participants, these faculty, staff, students, and parents rose to the challenge presented them in this second year. Our witness of their efforts and successes serves as testimony to the idea that innovation, regardless of the struggle, ought to be undertaken.

This research team has dedicated untold hours to produce this account of Project Homeroom in these schools. I would like to personally and publicly acknowledge the efforts of Mr. David Dwyer, Ms. Nicole Roberts, and Mr. Perry Schoon. As graduate students and research assistants in the TIER lab, their job was that much more involved as they worked to perfect not only the research methodologies used in the study but to validate the findings uncovered from numerous field visits and reviews of hard copy and computer data. They produced superb work, and I hope they have benefited from the experience as much as they have contributed to it. Illinois State University gains immensely from collaborative efforts with its laboratory school personnel. Mr. James Kelly, Mr. Jerry Parsons, Ms. Teresa Nietzke, and Mr. Mike Virlee each contributed their content area knowledge and specific insights into the functioning of high schools to this study. Without their input our understanding of what happens in today's high schools would be that much poorer. Ms. Carol Gard assisted in the categorization of many of the written survey responses, a time consuming but vital task. Finally, I wish to thank Mrs. Tina Fugate for her efforts in quickly and accurately entering much handwritten data into the computer for further analysis.

This research team has been at work on the Project Homeroom effort in the Maine East, New Trier, and Amos Alonzo Stagg High Schools since August of 1991. During this time we have learned that it is possible to integrate home-based computing and telecommunications into an expanded curriculum emphasizing an interdisciplinary approach to learning. Much more can be done, and will need to be done, as the computing and communications technology rapidly evolves in the next few years. It is our belief that Project Homeroom has served as an important step in clarifying how teachers and administrators, students and parents, and corporations can work together to improve the educational opportunities and facilities of all.

Jeffrey B. Hecht, Ph.D.
November 15, 1993

Executive Summary

Project Homeroom is an innovative attempt by several Chicago-area schools, IBM, and Ameritech to introduce state-of-the-art computing and telecommunications resources into the educational environment. This report details the second and final year's efforts of the Project in the Maine East, New Trier, and Amos Alonzo Stagg High Schools. An evaluation team from the Technological Innovations in Educational Research Laboratory at the College of Education, Illinois State University, has been studying Project Homeroom in these three high schools since August, 1991. This team used direct classroom observation, written surveys, personal and group interviews, and the examination of artifacts (including student grades and attendance records) to develop an understanding of the Project in these three schools. This report summarized findings from the second year of the project – school year 1992-1993. Findings from the first year of Project Homeroom in these three schools can be found in the report titled Project Homeroom First Year Experiences.

Several key issues have emerged as a result of the analysis of the Project Homeroom data. These themes were found in each of the three schools studied although, as can be found later in this report, they existed to differing degrees. Important results from the second year of Project Homeroom include:

(1) Innovation such as Project Homeroom takes time to accomplish.

Project Homeroom provided participating teachers with time, during both the summer and school year, to learn about technology and make improvements to curriculum. While more planning time could have been used, our impression is that no absolute amount of time would ever be enough. Rather, schools contemplating innovative change - especially innovation with a heavy technological component - need to assume that they will always be innovating, improving, and changing. We believe this to be a cyclic phenomenon, with innovative ideas leading to changes in programming which inevitably result in more ideas for changes and improvements which lead to more programmatic changes. Prior preparation, therefore, becomes not an end in itself but rather the first step in the continuing process.

The most successful aspects of Project Homeroom were seen when participating teachers and students had accepted change as their basic philosophy. Limitations were necessarily placed on the degree of technological and curricular innovation that were to be attempted during any single class or semester. However, a continuing re-examination of the intent and goals of the program led to continuing improvement, from the prior year to the current year and throughout the course of the 1992-93 year. Also accepted was the critical notion that meaningful change does not take place overnight. Project Homeroom exhibited the same quality of other large scale innovations; namely, that it can take several years for substantive improvement to occur. Our observations led us to conclude that this second year was a substantial improvement over the first year of Project Homeroom. We are also led to believe that future years would result in even greater changes and more meaningful refinements.

(2) Project Homeroom improved student and parent access to teachers.

It was readily apparent that participation in the Project Homeroom effort led to an increase in access, for both students and parents, to the participating teachers. Students realized and reported this increase in real ways, referring to homework and project assignments, while for many parents it was more the impression of increased access that was meaningful. Regardless of the actual number of outside-of-school contacts, both students and parents felt more in touch with the educational process through the Project Homeroom teachers.

Our study of this increase in access revealed that it did not come without a certain price. Teachers were required to change their current methods and means of communication and to establish a level of rapport with their students and parents previously not accomplished. It was only after such a rapport was established that teachers could reliably use technology (such as electronic mail) to mediate the interaction. The building of trust, and the change in communication ideals, took some time, and required the teachers to offer many parents alternative means, days, and hours of communication until more routine patterns could be established. All of the participating teachers are to be commended for their perseverance in this regard.

(3) Interdisciplinary instruction and cooperative learning were an important part of the Project Homeroom mix.

Each of the three schools included components of interdisciplinary instruction and student cooperative learning in their presentation of the Project Homeroom curriculum. Given the technology to be mastered and integrated, it was surprising how well these efforts were realized in this second year. A greater degree of success was seen in those classes repeating lessons or curricula that had been attempted in the prior year. Reflecting on the experiences learned during the first year, those teachers were able to refine their methods and lessons beyond what wad possible with new subjects and materials. Future work in this area will no doubt strengthen the linkages between discrete subject areas, resulting in a tighter presentation, and coverage of thematic problems not organized just around single-subject overlaps.

(4) Project Homeroom encouraged three dominant uses of the technology.

The research team's observations of student and teacher use of the technology that was a part of Project Homeroom led us to conclude that the technology was used in three primary areas. First was word processing, for the preparation and presentation of written materials. The second most frequently used application was telecommunications for the purpose of electronic mail (communications) and information retrieval. Finally, the technology of Project Homeroom was useful in the preparation and presentation of graphical, non-text materials. Students and parents also reported spending a significant amount of time using the technology for entertainment purposes. Future iterations of this project ought to build upon and expand the educational uses, and investigate

possibilities of incorporating more entertainment-oriented materials, when appropriate, into the mainstream of educational programming.

(5) Teachers in Project Homeroom interacted more with each other than ever before.

A common planning period, flexibility in scheduling, and a small group of teachers having the same small group of students provided benefits to planning and teaching unanticipated in the original design. Teachers were able to better coordinate curricular presentations, homework assignments, and field trips than would ever have been possible in separate, single-subject classrooms. Further, the participating teachers were able to develop a more in-depth understanding of their students' special needs. Whether working on an interdisciplinary lesson or a dedicated subject, this knowledge proved invaluable as teachers showed themselves better able to meet the unique needs of each individual child. This outcome, coupled with increased access to these same teachers outside of regular school hours, proved to be the strongest part of the Project Homeroom experience.

The overall impression of the Illinois State University evaluation team is that Project Homeroom, during its second year in the Maine East, New Trier, and Amos Alonzo Stagg High Schools, represented both a substantial improvement over first year experiences and a success for those involved. More positive experiences were reported by all participants - teachers, students, and parents - than in the prior year and, in general, more examples of innovation were documented as successful. There remain specific areas that need continuing development and improvement (as this report will detail), although it is our opinion that additional experience and exposure to this mode of instruction will provide just that.

Project Homeroom turned out to be a particularly successful combination of technology (computers, telecommunications services, electronic mail, information providers, word processing, and information manipulation and presentation) and people (teacher collaboration, differing levels of interdisciplinary instruction and cooperative learning, increased teacher availability, and common scheduling/staffing/planning). It is our opinion that what has been accomplished in these two years of Project Homeroom could be successfully replicated in almost any school willing to embrace the notions of innovation and change. While the computers and telecommunications services enhanced the opportunities of the students, parents, and teachers it was primarily those same individuals whose work and dedication need to be credited for the Project's success. School-corporate partnerships, with corporations offering meaningful "value added" equipment and services, make the job of those dedicated individuals that much more exciting. Like the change it embodies these first two years of Project Homeroom are just the beginning of what can be wonderful innovations in American education. Though not answering every question, or solving every problem, the experiences at these three schools have shown that the risk is well worth the effort.

Table of Contents

Introduction 1
- Project Homeroom at Maine East High School 2
- Project Homeroom at New Trier High School 2
- Project Homeroom at Amos Alonzo Stagg High School 3
- Overview of the Evaluation Plan and Personnel 3
- On-Site Interviews and Observations 4
- Written Surveys 4
- Attendance and Grade Records 5
- Advice for Readers of This Evaluation Report 6

Maine East High School 7
- School Observations 7
- Reported use of, and comfort with, the computer 11
- Reported time in telecommunications activities 15
- Reported time in related activities 18
- Attendance 20
- Grades 20
- Student Survey #3 Themes 21
- Parent Survey #3 Themes 23
- Student Survey #4 Themes 25
- Parent Survey #4 Themes 29
- Summary 34

New Trier High School 36
- School Observations 36
- Reported use of, and comfort with, the computer 41
- Reported time in telecommunications activities 45
- Reported time in related activities 48
- Attendance 50
- Grades 50
- Student Survey #3 Themes 51
- Parent Survey #3 Themes 51
- Student Survey #4 Themes 53
- Parent Survey #4 Themes 57
- Summary 61

Amos Alonzo Stagg High School 62
School observations 62
Reported use of, and comfort with, the computer 65
Reported time in telecommunications activities 69
Reported time in related activities 72
Attendance 74
Grades 74
Student Survey #3 Themes 74
Parent Survey #3 Themes 77
Student Survey #4 Themes 79
Parent Survey #4 Themes 84
Summary 89

Appendices 91
Project Homeroom Student and Parent Survey #3: Maine and Stagg 92
Project Homeroom Student Survey #3: New Trier 94
Project Homeroom Parent Survey #3: New Trier 96
Project Homeroom Student and Parent Survey #4: All Schools 98

Project Homeroom
Second Year Experiences

Introduction

Project Homeroom is a collaborative effort on the part of six Chicago-area school districts, IBM and Ameritech, begun in the spring of 1991. The project places IBM personal computer systems into the homes of participating students and teachers. Participants are provided telecommunications services by Ameritech Inc. linking those computers to the schools and selected information provider services such as Prodigy. Additional computer technology has also been established in each school, giving a centralized platform for design and experimentation. Teachers and administrators have been working since the start of the program to find ways to integrate this technology into their instructional programs, using the technology as support for other curricular innovations. Specific initiatives have also been established to encourage the parents of participating students to become more active in their children's education.

Overall, this effort seeks to eliminate the "learning only occurs in school" outlook that many students encounter. Most American schools operate on fairly traditional schedules, with teachers and resources only available to students during the school day. Students desiring additional resources not usually found in the home, especially contact with a teacher, were frustrated by the lack of resource availability. Project Homeroom addresses this issue by using the Prodigy service, in addition to school computer local area networks brought on line during the first year, as a means for students to both communicate with teachers after hours and to access information not usually available in the home.

The Project Homeroom effort also seeks to increase the involvement of parents in the education of their children. This is especially important in the three high schools being evaluated in this research, as parent participation is known to drop off dramatically during the high school years. Research done in elementary schools shows that increasing parent involvement reduces the risk of student problems and increases both academic and social performance. Project Homeroom is using increased contacts between the teachers and parents, both on voice telephones and via Prodigy and the school networks, to maintain and increase parental involvement.

Finally, Project Homeroom allowed teachers and administrators to work together in order to rethink schooling. High school is often criticized because of the way it compartmentalizes knowledge, dividing it into specific blocks according to major subject areas. Students traditionally learn each subject as a separate unit, with little understanding of how all of the knowledge fits together as a whole. Teachers in this project have planned to use the technology as a means to reorganize the curriculum around conceptual models tapping many different specific subject areas. Empowered by the technology, teachers and students are free to explore problem solving, creative thinking, and expressive writing and speaking.

Each school participating in Project Homeroom developed its own specific plan for designing and implementing the project. Although none of the plans were executed quite the way they were described, and have evolved substantially as a result of the first year's experiences, it is important to note the beginning orientation for each institution. The following summaries were extracted from school statements and planning documents developed early in the Project's life.

Project Homeroom at Maine East High School

Maine East planned to start the first year with 100 freshman students who would be committed to the Project Homeroom program for the full two year term. Unfortunately, most of the students at Maine East High School live in the Centel telephone region. Since Ameritech was providing the telecommunications service, students participating in Project Homeroom were selected from a restricted area within the Ameritech service region. An attempt was also made to insure that students were drawn from across the entire regular, academic population.

Each student had access to computers both at home and in the classroom. The program employed a 'project' orientation to learning, with students completing several themed projects during the course of the year. Students were provided dial-up access to the school library and were expected to download homework to the school via local area network. Teachers also offered evening 'office hours' by computer.

The first year of the Project Homeroom curriculum was planned as interdisciplinary combining English, Math, Science, and Social Science. The results of this initial year can be found in the "Project Homeroom: First Year Experiences" report. A total of 79 students participated in the second year of the project as they progressed into their sophomore year of high school. In this year the school combined the classes of English, History, Algebra/Geometry, and Chemistry/Physics into the Project Homeroom program. Maine East is interested in studying the effects of Homeroom on learning style. They seek to separate the effects of the interdisciplinary program from the effects of the technology.

Project Homeroom at New Trier High School

New Trier's version of Project Homeroom was designed to use the capabilities of telecommunications technology to enhance the delivery of the tenth grade curriculum. A cross-disciplinary focus united a core program in English, Biology, Geometry, and Geography in course academic levels 2 and 3. Teachers planned to integrate fine/practical arts projects into the core curriculum, as appropriate. Students enrolled in Project Homeroom learned the same curriculum as designed for all New Trier students enrolled in the same Levels 2 and 3 courses. Seventy-five sophomores were identified to participate in the first year of the program. A second group of fifty-four sophomores was selected for the second year of the program.

The faculty and staff of New Trier High School have examined the enhancement of the curriculum using telecommunications technology, cross-disciplinary and cooperative teaching. Another important component studied is the benefit derived from a learning partnership forged and nurtured among students, parents, and teachers–both in and outside the classroom.

Project Homeroom at Amos Alonzo Stagg High School

Project Homeroom for Stagg students was unique in that ISDN phone lines were used to connect the homes and school. This technology allowed students to exchange data while conducting a voice conversation over a single telephone line. School officials selected 75 of the incoming 1991-92 freshman class for participation in the first year of its version of Project Homeroom. These students were selected from both the regular and basic academic populations. A total of 73 of these same students continued with Project Homeroom into its second year.

During the first year, students participated in an interdisciplinary curriculum that covered three subjects: English, German (first year), and World History. Class sizes were designed to be fluid, ranging from three separate classes of 25 students each to a single class of 75 students. It was intended that the size of any particular class would be dictated more by the needs of the curriculum and less by the needs of a master schedule. Stagg continued this philosophy into the second (sophomore) year with the subjects English, German (second year), and Economics/Government.

Overview of the Evaluation Plan and Personnel

Dr. Jeffrey B. Hecht, a Professor of Education at Illinois State University, was secured as an external evaluator to examine the impact of Project Homeroom in these three schools. Dr. Hecht's team, consisting of several full-time graduate student, four faculty associates from the University's Laboratory High School, and part-time graduate students working on specific subparts of the project, is based out of the Technological Innovations in Educational Research (TIER) laboratory in the Department of Educational Administration and Foundations, College of Education.

Early on it was recognized that simple attempts to quantify the impact of Project Homeroom on student learning and achievement would greatly underestimate and poorly describe its true value. For this reason the team designed a multimodal evaluation approach. Several different quantitative and qualitative methods were combined to ascertain program participation, academic performance changes, and attitudinal variations. Four key participant groups were identified and studied as part of this process: participating students, parents of participating students, participating teachers, and school-site administration. In addition, grades and attendance data were collected as an aggregate from their Project Homeroom students' class as a whole to be used for within grade comparisons (first year only due to data unavailability).

Unfortunately, final arrangements to use the ISU evaluation team were not concluded until virtually the start of the 1991-92 school year, even though curriculum planning and development activities and summer camps were already well underway. This challenged the evaluation team to quickly come up to speed in studying the effort, so as not to miss any more of the first year than necessary. The first priority of the team to get out into the field to meet with the different program participants, and to begin to observe the project's implementation.

On-Site Interviews and Observations

During the first year of the project, from the start of the project evaluation (the end of August, 1991) through March, 1992, the evaluation team has spent a total of thirty-two (32) days in the field gathering data on Project Homeroom: five days with Ameritech and IBM representatives, nine at Amos Alonzo Stagg High School, ten at Maine East, and eight at New Trier. The second year, from April, 1992 through May of 1993, saw a total of twenty-three (23) days in the field: one with Ameritech and IBM representatives, five at Amos Alonzo Stagg High School, eight at Maine East, and nine at New Trier. These site visits have typically been a combination of different activities. Direct classroom observations allowed the visiting team members to see Project Homeroom components in action in the classrooms. Interviews, both individually and in groups, were also conducted with participating teachers and administrators to discuss what was observed in the classroom, the activities being undertaken and planned for the future, and different problems and praises as the project progressed.

Evaluation teams were able to visit several student residences in each school district to see the technology in use in the home, and to talk with both parents and students concerning their impressions of the project. In addition, open town meetings were held at each school during the first and second years where parents were invited in to provide group impressions of the project and to hear a presentation (and ask questions) concerning the evaluation effort.

All of the on-site experiences for this project, with only a few exceptions, were video taped to aid in the process of data analysis. While video is not new to evaluation studies and qualitative data gathering, the unobtrusive size and high quality afforded by newer technology allows the research teams to gather a wealth of data previously unimagined. These audio-video segments are also extremely useful for summarizing and communicating the research findings. The computer program VTLOGANL (version 2.51) was a useful tool in cataloging and analyzing the interactions captured on the video tape. Dbase IV and SPSS/PC+ (version 4 and 5) were also used to produce frequencies and relational analyses of coded events.

Written Surveys

In addition to the direct observation and interview techniques, the research team asked each participant (student, parent, teacher, and administrator) to complete continuing comprehensive written surveys. The first survey, administered in

January/February, 1992, established a database of personal characteristics and technology history for each respondent. This survey queried each individual about their prior (pre-Project Homeroom) technology experiences, and specific behavioral and attitudinal changes that had occurred since the beginning of the project. A second written survey was administered to students and parents near the end of the 1991-92 school year. The results from these two surveys are contained in the "Project Homeroom: First Year Experiences" report. A third survey was administered at the beginning of the 1992-1993 school year, with a final survey given near the end of the academic calendar. Copies of these third and fourth surveys are included in the Appendix.

All of the survey instruments utilized both open-ended and closed-form questions. Open-ended questions were utilized on both instruments to gather information about:

1) knowledge of various aspects of Project Homeroom,
2) understanding of technology and available resources, including people and software.
3) use of and opinions about the addition of technology to the school curriculum. and
4) opinions concerning the projects, collaborative learning, and interdisciplinary efforts undertaken in each school.

Numerical and categorical data from the surveys, along with the rates of response to the open-ended thematic questions, were analyzed using SPSS/PC+ (version 5). Flextext (version 2.1) was the selected computer software used for developing an understanding of the textual open-ended responses. The textual responses were initially typed into a computer readable format using WordPerfect (versions 5.1 and 6.0), and were then exported and coded into Flextext for analysis.

The research team began the textual response analysis by creating a "conceptual map". Developed concepts spoke directly to expected and actual responses, allowing the categorization of themes and ideas expressed by the respondents. Broad categories of response themes included positive and negative ideas about technology, main stakeholders within the Project, and curricular and involvement themes central to Project Homeroom. The "Textual responses analysis conceptual map" (reproduced in the first year report) served as an outline as researchers read and considered individual verbatim responses for coding in Flextext. That conceptual map has been represented by selected direct quotations and narrative description in this presentation.

Attendance and Grade Records

Student attendance and academic records were also examined as part of the evaluation effort. Prior academic folders were obtained and reviewed on each student during the first several months of the project. First semester grade reports were added to this list during January/February of 1993 with end of year data added during the Summer and Fall of 1993. Relevant components of this information were coded into a master computer database for comparison to written survey responses and interview records.

Advice for Readers of This Evaluation Report

The combination of evaluation efforts applied to the study of Project Homeroom have revealed several key findings. In the review of these findings, however, several important cautions must be noted. First, the data presented in this report represents information available from the second year of program operation. A complete understanding of the project requires an examination of both this report and the report from the first year.

Second, this report represents a presentation of data from all three high schools under study. While each site is implementing its own unique version of this project, sufficient similarities exist between them to allow for a single method of evaluation to be applied to all three sites. It is not the intent of this evaluation to compare one school site against another, or one teacher to another, as too many other important differences already exist between the schools as to make such a comparison meaningless.

Third, It is not the intent of this evaluation to ascribe project successes or failures to any single cause(s) or person(s). Rather, we seek to present the data that has been gathered and to analyze it in a way that provides for useful future program implementation and improvement. This study is not an evaluation of teachers, administrators, parents or students. It is, though, a study of how the process of Project Homeroom has been implemented in its second year, and what improvements have been noted with that implementation since the first year.

Finally, it should be obvious that all possible data cannot ever be collected, analyzed, or explained in any one single report. Many very interesting insights developed in the course of examining Project Homeroom that cannot be adequately described in print, let alone in the numerous pages this report required. This work represents the best efforts of the team of researchers to present what we feel to be the most important of the data that could be analyzed.

Maine East High School

School Observations

The TIER lab research team visited Maine East a total of eight times making multiple, direct classroom observations on four of these visits. We interviewed teachers individually and collectively on six visits, and videotaped six different teacher meetings. Our site visits spanned the time period between 8/19/92 and 5/12/93. Additional data collection occurred through Prodigy, and included a collection of artifacts (ie. lesson plans, syllabi, course work materials, hard copies of material available to students on the network), as well as through videotaped interviews with teachers and administrators.

We observed a mixture of feelings at Maine East. While it was evident that the teachers had a greater understanding of technology, they expressed frustration at having to redevelop their curricula. Teachers used computers and other technology in their classrooms, and also expected students to use network capabilities from their home. In addition, parents used e-mail to track the progress of students.

We saw many classes in which technology was being used. In some classes, especially science and math, the computer was hooked up to an LCD plate and used to demonstrate an application students had previously used for homework, or to exemplify the learning for the day. The computer in these classes was essentially a demonstration tool for the teacher. This is by no means meant to suggest that this was the only way the computer was used in science or math. Indeed, students went to the computer lab and worked, or entered data which was used in their classes. What we saw during classroom observation, however, was usually the teacher using the computer at the front of the room while students sat back and watched and listened, sometimes asking questions. During many of these classes, students were either restless or listless–some fidgeting and clowning, while others slumped with their heads on their arms. A few were actively engaged with the teacher, asking questions and requesting clarification of information.

Students also had many hands-on experiences with computers and related technology. Students created portfolios of writing, pictures, and graphics to complement research they completed. They used the computer to perform writing workshop tasks such as peer editing by moving about the room in order to read each another's writing. One teacher set for himself the goal of creating the "paperless classroom". In pursuit of this goal, he used the network as a meeting place for his students' writing workshop. He had them upload their files to the network, then encouraged students to respond to one another's work online. He also had students take tests on the computer, with the questions on the computer and the students typing answers. Another teacher used graphing programs to illustrate various physics/chemistry principles. He also had his students use the research capabilities available on Prodigy, and he kept in close contact with parents concerned with their child's progress via Prodigy. A third teacher and his students used graphing programs and spreadsheets to explore algebra. Another used word processing in her English classes, and also used multimedia capabilities to enhance

her students' research efforts. She also placed assignments on the network, and had students save journal responses to literature read to computer disks which were randomly collected. Prodigy enabled her to keep in contact with students, including one who was having trouble at home and who did not feel comfortable talking about it at school. Finally, the last teacher had his classes working on Carmen San Diego units, and used Prodigy for research efforts. He also communicated with students and the research team via Prodigy.

We saw many uses of technology, and we saw several examples of subject areas working on complementary themes. A particularly interesting example where all the subject areas worked on complementary themes, and technology was integrated throughout the curriculum was the first semester focus on ancient Greece. As they were reading The Odyssey in English, students studied Pythagoras in math, and in Physics/Chemistry, studied and wrote about Aristotle.

During this unit, English and Social Studies classes were deliberately interdisciplinary, and Math and Science seemed to follow along in a supporting role. Having read The Odyssey in English class, students went to the library and researched important figures in Ancient Greece from three categories: Gods and goddesses; Heroes and legends; and Monsters. Students then drew or selected art work on Linkway to represent these important figures and the research they had done. When we visited on October 9, 1992, the Linkway portfolios were almost complete, with students in the editing stage. Students accessed their Linkway portfolios, spent about 10 minutes finishing their initial work, then had time to circulate around the classroom to read other students' work and make suggestions to make the final copy as good as it could be.

The pictures and text links created in Linkway certainly looked impressive. Students had digitized an interesting array of work, mostly ancient Greek artifacts, to represent their area of research. The importance of having an informed technical person was highlighted when two students panicked that they had lost their images. They explained their plight and with desperate hope asked him if he could get their files back. He assured them that he could retrieve the files, and went off to do so. As he left, a friend of the two students said, "You guys should kiss the ground he walks on," to which the two students nodded enthusiastically. He returned to show them the files and explain how they could prevent this trouble, and should they run into it again, how to solve it.

Many students worked diligently to finish the papers, with some helping others with editing and spelling, as well as with facts and technical problems. After several minutes, the teacher stopped the class and had them move to other students' work stations to critique each other's work. Students moved to one another's work stations, read each other's work quietly, and made comments on papers to be turned in at the end of class. Some students worked continuously, while others were quickly finished, and quickly bored. Some simply sat and waited, others visited with one another.

While students worked the teacher spoke with one student who had not completed the work, then sent all the students back to their seats. He asked the students to send the pictures to the network. He gave detailed instructions explaining how to complete this task. Students logged out, the teacher gave some final announcements, then the students turned in papers they had completed while editing each other's work. They also picked up diskettes with personal narrative assignments graded on them. This long term assignment was to have culminated in a class Linkway book, accessible to all students over the network. Later, in another teacher's class, other students accessed the work other students had done to gather information for themselves.

Science and math collaborated on one particularly interesting project. In the science class, students built catapults (as a way of relating to the ancient Greek theme of the semester). They fired their catapults a number of times, collecting data to find average distance and average time in the air for the objects fired. Of particular interest in this class is that the students themselves created videotape to share with the researchers and to document their work. They then took the data to the math class and used it to work out average velocity. The average velocity was used to illustrate various functions and equations, which were subsequently graphed. Students, having the graphing capability on-line at home, created the graphs there. In one class we saw, the math teacher demonstrated where some students had some problems understanding the equations used. He used the computer and an LCD plate to guide students through the process.

This same teacher also made forays to the computer lab to give his students the opportunity to experiment with various math tools. One lesson we observed had students creating equations and then having the computer draw the diagram that would result from the equations. Students were fascinated as their equations turned into intricate spirals, and frustrated when they could not figure out the equations that created other elaborate designs.

The computer was not only used for school work. The teachers used E-mail capabilities on Prodigy to communicate with students about homework and grades, with parents about the progress of their students, and with the research team. The science teacher used Prodigy e-mail extensively to help parents whose students were not doing well to keep abreast of their progress, and to help students who did not understand the homework find resources and solve their individual problems.

The telecommunications were an important part of the use of the network. Teachers and students had a way of contacting one another that was different from the telephone, which was important. During a presentation to their school board a board member asked one teacher whether she could do the same job using the telephone as she did on e-mail. This teacher noted,"...through electronic mail, if I get four kids with the same question or the same basic concern, I can write one answer and send it to all four of them." She expressed reservations to allowing kids to have her home phone number, calling that access "really invasive" and saying that to have to answer phone

calls as a part of the job would take an awful lot of time. "The e-mail makes it manageable."

This teacher was also able to help a student with a personal problem on e-mail, and it was clear that the student would not have accepted any other kind of help. The teacher had seen the student in the hall crying. She asked if the student was OK, and the student said, "Yeah, I'm fine". The teacher figured it was a typical high school problem, but when she got home wrote the student a note saying that she was not trying to be nosy, but if there was anything the student wanted to talk about, let her know. She received a five page answer to her question detailing exactly what was wrong.

One of the problems the Maine East group had to deal with was the lack of continuity in the program from the first year. Each of the teachers was teaching a different class the second year. "There is no English II here, so we're creating that class. [the science teacher has] never taught Physics, [the social science teacher has] never taught Western World, [the math teacher has] got I don't know how many classes going on...and so we didn't have familiar territory to go through and say 'Oh, well, when I do To Kill a Mockingbird, you could certainly talk about slave trade....'" said the english teacher.

The social science concurred while describing what the group had done to develop their interdisciplinary ties this year. They started by identifying goals of their individual curricula, and as he notes, "It was a bit difficult, because as you know [the english teachers] created a different curriculum; [the science teacher], first time teaching for Physics, been a long time for Chemistry, been the first time for me in History of the Western World." Teachers professed the profound impact Project Homeroom, the interdisciplinary classes, the technology, and being involved in an innovative project had on their personal and professional lives. One teacher stated that the amount of work related to the project made it impossible to take a lunch break. The frustration was best explained when in relating the "just one thing analogy": "It's like, you're here (holding up left index finger, circling right index finger around it) and all these people around you want 'just one thing' from you, but they are all completely unaware of anybody else."

Another teacher said, "If you're not already prepared to work hard, be prepared to work hard. Be prepared to work with people. It's a time commitment inside and outside the building. It's a time commitment that pays off. There have been some perks with the program....I can't even fathom going back to just being in my classroom without having some sort of content contact with other disciplines. This department here is a very open department, and we're always sharing ideas and materials."

Another teacher credited Project Homeroom with fitting into a model of teaching toward which he had been heading as a professional, and helping him accelerate his change. He had begun to question the idea that he, as the teacher, had to stand at the front of the class and disseminate information. He began to seek ways to involve students in authentic practice of skills learned. In Project Homeroom, "that begins to get extended to beyond [the specific skill area], so it becomes access for information, it

becomes the messing around with ideas that kids do using technology. You no longer have...[the idea that] I'm the font of knowledge. You're saying 'I know how to work some of this machinery that's going to give you access to information. How do you want to do it? Where do you want to go?' It's much more kids hands on, and much less teacher directed stuff."

The costs, then, of Project Homeroom seem to be the personal time of the teachers. Teachers expressed frustration at not having the time to do the things they normally would be allowed to do, and at being put in a position of having to create curriculum, rework ideas, and redo the school year in order to continue with the project.

The benefits, too, seemed to be more personal than curricular. Students had personal access to teachers through e-mail. They were able to complete homework using network resources, a benefit if one of the goals was to encourage students to become knowledgeable consumers of the information services available to them. Teachers also were enthusiastic about having the time to work with one another. Some expressed that they could not envision going back to the old way of doing things.

The benefits to learning seemed to be a natural outgrowth not only of Project Homeroom, but also of the learning professionals have been doing about how students learn. Professional literature has suggested for years that teachers must learn to give up control, to allow students to find information, rather than considering themselves the great givers of truth. Project Homeroom seems to fit into this already developing theme in education. By giving students more access to a wider array of information, and by putting teachers in a position that allows and even forces them to give students that power, Project Homeroom and its practitioners can nurture the growing idea.

Reported use of, and comfort with, the computer

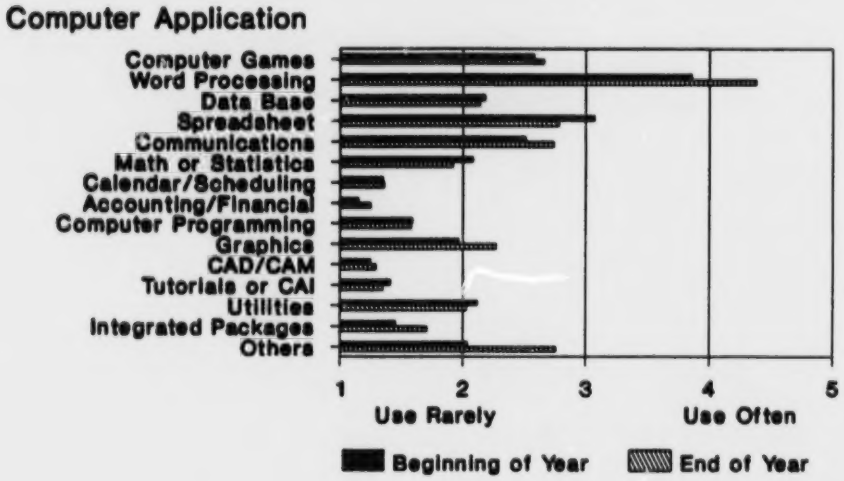
Students and parents were asked, once near the beginning and then again at the end of the school year, to describe their utilization of their computer. Questions focused on 15 separate computer applications, asking for reports of both the relative amount of use and comfort in that use. All questions were on a five-point semantic differential scale type, ranging from a score of 1 meaning "used rarely" and "uncomfortable with using" to a score of 5 meaning "used often" and "very comfortable with using". These data were collected and analyzed using a before-then-after t-test. This analysis was designed to ascertain if a statistically significant change had occurred from the beginning to the end of the year in either use or comfort level in any of the 15 computer application areas. A side-by-side bar graph displaying this information is presented on the following page.

Students at Maine East High School reported using their computer the most for word processing activities. Spreadsheet tasks were the second most often cited application, followed by telecommunications tasks, then computer games. Least frequently used were accounting/financial applications, Computer Aided Design(CAD)/Computer Aided Manufacturing (CAM) programs, and tutorial or Computer

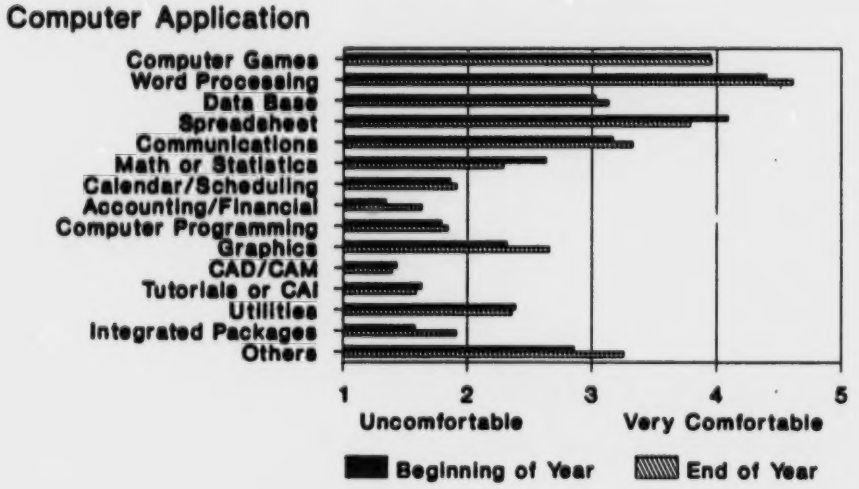
Assisted Instruction (CAI). The reported level of use of word processing was the only application, however, whose change in use increased statistically significantly from the beginning of the year to the end. Students reported an increase from an average reported use level of 3.86 at the beginning of the year to 4.38 by the end of the year ($t = 2.91$, $p = .004$). The use of communications applications, graphical programs, computer games, and other application also increased from the beginning to the end of the year, although not significantly. It was not a surprise that word processing was the application students reported being the most comfortable with, followed by computer games, spreadsheet tasks, and communications. The least amount of comfort was expressed with accounting/financial applications, CAD/CAM, and tutorials/CAI. No statistically significant changes occurred from the beginning to the end of the year in student comfort level in any of the 15 computer applications.

Maine East parent use of the computer was not as well differentiated as student use. As with their children, parents reported engaging in word processing tasks the most frequently and CAD/CAM the least frequently. All other applications were reported used relatively equally and at a fairly low level (1.2 to 1.8 on average). Over the course of the year parents reported a statistically significant increase only in their use of word processing (from 2.29 to 3.07, $t = 2.23$, $p = .029$), spreadsheets (from 1.69 to 2.33, $t = 2.28$, $p = .026$), and tutorials/CAI (from 1.29 to 1.86, $t = 2.31$, $p = .027$). Reported comfort level rose from the beginning to the end of the year in all 15 applications. Parents reported being most comfortable with word processing, computer games, data base, and spreadsheet tasks while being least comfortable with CAD/CAM and integrated packages. This increase in comfort level was statistically significant in computer games (from 2.38 to 3.27, $t = 2.27$, $p = .026$), word processing (from 2.77 to 3.71, $t = 2.46$, $p = .016$), data base programs (from 2.11 to 3.00, $t = 2.43$, $p = .018$), and spreadsheets (from 2.09 to 2.89, $t = 2.25$, $p = .027$).

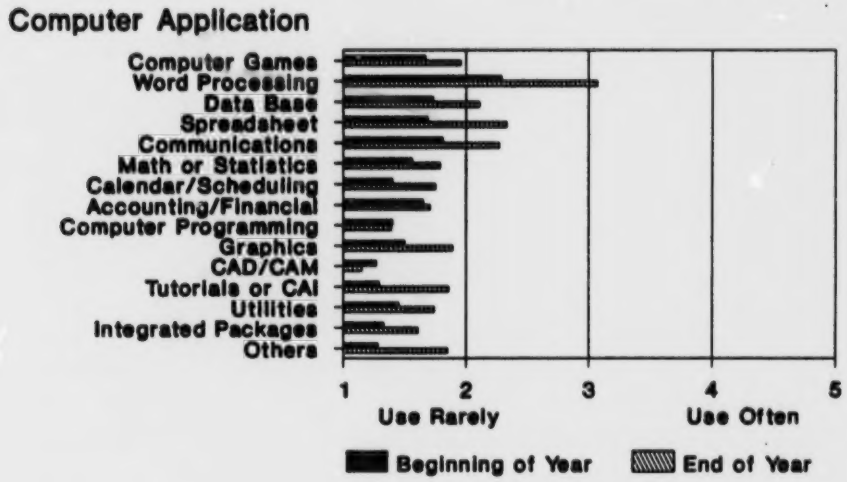
Maine East High School
Student Reported Use of Computer



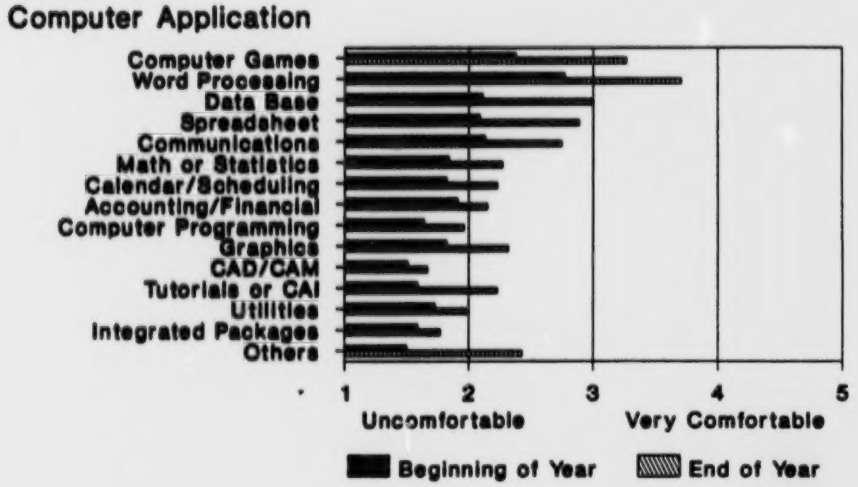
Maine East High School
Student Reported Comfort with Computer



Maine East High School
Parent Reported Use of Computer



Maine East High School
Parent Reported Comfort with Computer



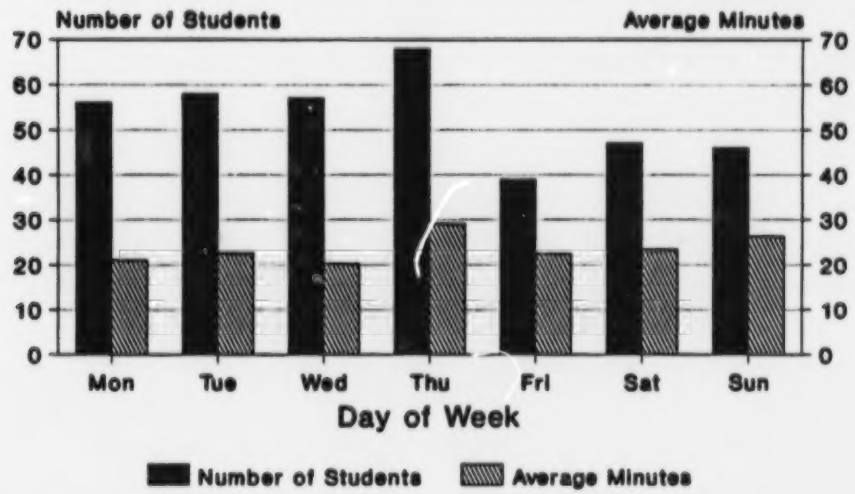
Reported time in telecommunications activities

As part of the final written survey, participating students and their parents were asked to indicate the amount of time they used the computer for telecommunications activities during a typical week. Parents and students related the number of minutes each day they spent using both the Prodigy service and their school's local area network. The number of respondents who indicated spending at least some time in either activity was totaled, and an average computed for the number of minutes typically spent each day. A bar graph displaying this information is presented on the following page.

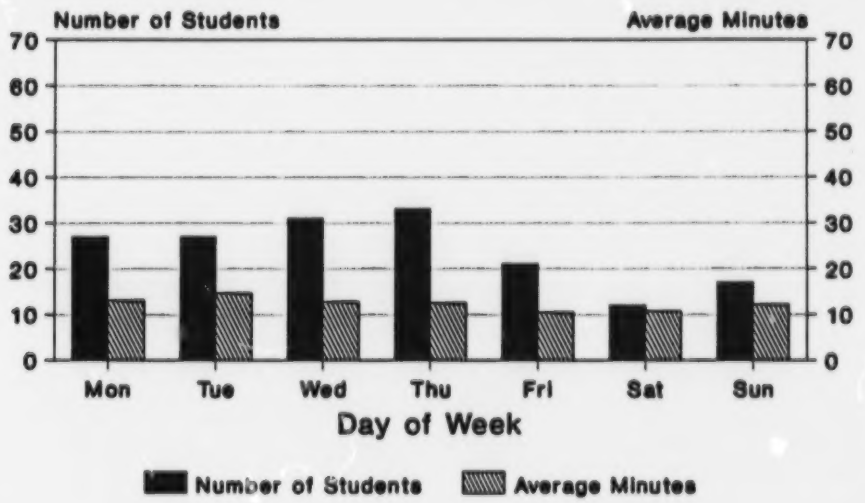
An average of 53 Maine East students reported spending at least some time each week using Prodigy, while only an average of 24 reported spending some time connected to the school's local area network. On average more time was spent in telecommunications activities on Thursday than on any other day of the week. Students also reported spending less time using the school network on weekends than during weekdays, where usage was fairly stable across the five days. More students reported spending a larger amount of time, up to twice as much, using Prodigy than using the school's network. No statistically significant differences were found in the number of students using the two services on any given day of the week. Likewise, no statistically significant differences occurred in the amount of time spent on either of the two services on any given day of the week.

An average of 12 Maine East parents reported spending at least some time each week using Prodigy, while only an average of 4 reported spending some time connected to the school's local area network. On average parents reported spending more time using both the Prodigy service and the school's network on weekdays than on weekends, with Mondays being the most popular day for connecting to Prodigy and Tuesdays for connecting to the school's local area network. These data clearly show that using the Prodigy service was the more popular telecommunications option exercised by parents, with parents spending over twice the amount of time on Prodigy than on the school's local area network. No statistically significant differences were found in the number of parents using the two services on any given day of the week. Likewise, no statistically significant differences occurred in the amount of time spent on either of the two services on any given day of the week.

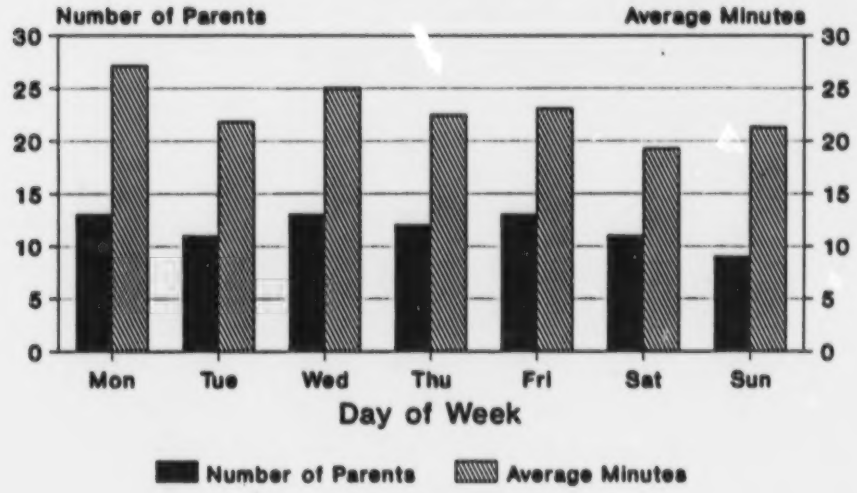
Maine East High School
Student Reported Use of Prodigy



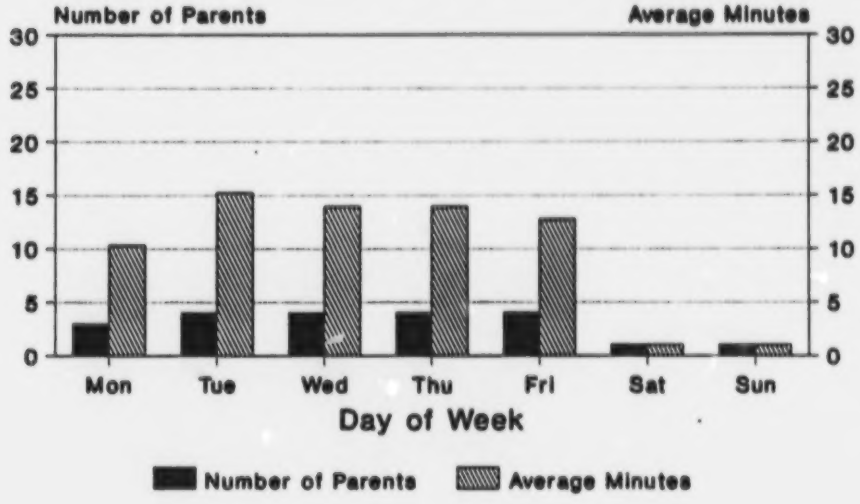
Maine East High School
Student Reported Use of School Network



Maine East High School
Parent Reported Use of Prodigy



Maine East High School
Parent Reported Use of School Network



Reported time in related activities

It was apparent from the data collected at the beginning of the year and the data collected at the end of the year that the parents of the Project Homeroom students used the computer more frequently at the end of the year. There was a 4.31% difference from start to end in amount of time used. Communications between the parents and teachers also increased over the course of the year. At the same time, communication with other parents decreased as did communication with their children and administrators.

There was a substantial increase in the amount of time that parents spent listening to the radio. However the amount of time that the parents devoted to relaxation decreased substantially. there was a decrease in the amount of time parents devoted to relaxation, and parents reported bringing less work home with them. They reported an increase in using the computer to do their work that they did bring home. While there was a slight increase in the amount of school work brought home, there is no rise in the use of computer to complete this work.

Students showed increased use of nearly all computer activities over the course of the 1992-93 school year. They spent more time using their computers for "school" work, "employment" work, working on Prodigy, using the school's computer network, and communicating with teachers. There were slight decreases in the amount of time spent communicating with parents and playing games. The amount of time spent communicating with administrators did not change.

Students in Project Homeroom spent more time watching television, listening to records, tapes, or CD's, talking with friends on the telephone, visiting with friends in person, participating in a club or group activity and watching movies, concerts, or plays. They spent less time on school work, listening to the radio, reading, doing hobbies, participating in sports or attending sporting events, and relaxing. There was a significant amount of change in the amount of time spent visiting with friends in person.

Activity	Student Responses		Parent Responses	
	Start	End	Start	End
Activities not involving the computer				
"School" work at home	12.28%	9.91%	1.84%	2.46%
"Employment" work at home	.91%	1.57%	7.24%	4.42%
Watching television	10.84%	10.92%	20.34%	19.92%
Listening to the radio	8.31%	8.00%	6.54%	11.06%
Listening to records, tapes, or CD's	6.29%	6.50%	3.42%	2.91%
Talking with friends on the telephone	6.79%	7.49%	5.44%	4.78%
Visiting with friends in person	8.52%	10.21%	7.16%	8.15%
Reading pleasure books or magazines	2.87%	2.54%	7.02%	6.13%
Doing a hobby, art or craft	2.84%	2.78%	3.18%	4.42%
Participating in a club or group activity	3.03%	3.17%	2.35%	2.66%
Participating in a sport or exercise	8.40%	7.80%	5.74%	4.37%
Relaxing (doing nothing at all)	6.70%	5.25%	10.07%	5.76%
Watching a movie, a concert, or a play	3.70%	3.76%	5.01%	4.10%
Attending a sporting event	2.74%	1.84%	1.52%	1.93%
Activities using the computer at home				
"School" work using the computer	4.56%	4.96%	1.25%	.66%
"Employment" work with the computer	.09%	.20%	1.84%	7.74%
Communicating with an Administrator	.29%	.29%	.64%	.05%
Communicating with a Teacher	.61%	.75%	.94%	2.19%
Communicating with a Parent	.66%	.56%	.70%	.00%
Communicating with a Student	1.28%	1.36%	.72%	.22%
Using the school's computer network	1.01%	2.18%	.28%	.46%
Working on Prodigy	3.66%	4.36%	4.09%	3.63%
Playing games or other entertainment	2.97%	2.92%	1.91%	1.30%
Other purposes	.65%	.71%	.77%	.68%

Attendance

The number of days each participating student was absent was obtained from school records. Project Homeroom students were absent an average of .70 days during the Fall 1992 semester while only being absent an average of .51 days during the Spring 1993 semester. This data is below the school-wide average for days absent, and well below the figures reported for the Project Homeroom group during the first year. Although the rate of absence declined in the second semester, this change was too small to be considered statistically significant.

Grades

Course grades for each Project Homeroom student were also obtained, and are summarized in the table below. In the first year of the study, the grades of students taking similar, but non-Project Homeroom courses were also obtained. Comparisons were drawn between the Project Homeroom students and their non-Project Homeroom counterparts. Although repeatedly requested, the grades of suitable comparison students were not made available in this second year to the research team for the purpose of comparative analyses. Unfortunately, the unavailability of this comparative data resulted in no grade analyses being performed. This table is presented for information only.

Subject		A	B	C	D	F	P
English	92FS	17.7%	26.6%	29.1%	15.2%	11.4%	
English	93SS	24.7%	19.5%	31.2%	14.3%	10.4%	
History	92FS	31.6%	27.8%	25.3%	11.4%	3.8%	
History	93SS	28.2%	34.6%	28.2%	3.8%	5.1%	
Algebra 1	92FS		28.6%	28.6%	42.9%		
Algebra 1	93SS		16.7%		66.7%	16.7%	
Algebra 2	92FS	9.5%	17.5%	31.7%	27.0%	14.3%	
Algebra 2	93SS	9.7%	21.0%	29.0%	33.9%	6.5%	
Geometry	92FS	14.3%	28.6%	42.9%	14.3%		
Geometry	93SS	14.3%	14.3%	28.6%	42.9%		
Chem/Phys	92FS	7.6%	15.2%	35.4%	30.4%	11.4%	
Chem/Phys	93SS	9.1%	23.4%	27.3%	27.3%	13.0%	
Other	92FS	20.7%	34.6%	25.5%	11.2%	4.3%	3.7%
Other	93SS	20.0%	35.0%	25.7%	10.7%	2.1%	6.4%

Student Survey #3 Themes

Question 1: What computer programs did you use over the summer vacation?

Of the 78 respondents to the survey, 29 Maine East students said that they had not used any computer programs over the summer, while four did not give a reply to the question. Of the remaining 45 students who had used computer programs, 32 indicated that they had used Prodigy the most. Fifteen students said they had used some word processing program such as Microsoft Works. Fifteen other Maine East students said that computer games such as Monopoly, GUTS, Scrabble, and Carmen San Diego were their software programs of choice. Other software programs mentioned as having been used included: Linkway (6), Printshop (4), Microsoft Basic (2), Norton Utilities (2), PC tools (1), QModem (1), PC Globe (1), Windows (1), DOS (1), and Stacker (1).

Question 2: What did you use the computer programs for?

Twelve Maine East students did not respond to this question. Twenty others said that they had not used any computer programs. Of the remaining 46 students who had used computer programs over the summer, 26 indicated having mainly used them to play games, have fun, or for entertainment. Nine students reported having used Prodigy to search for information. Other uses of computer software included: for schoolwork (6), to write letters and prepare documents on a word processor (7), draw/paint graphics (5), send and receive electronic mail (2), and to program (2).

Question 3: Did you use Prodigy? If you did, what did you do on Prodigy and about how frequently?

Twenty of the 78 students who responded to the survey said they had not used Prodigy over the summer. Three Maine East students did not respond to the question. It was therefore assumed that the remaining 55 students had used Prodigy in one manner or another. the following is a breakdown of the frequency of use reported by these 55 students:

Used one hour every day	14 students
Used one hour per week	5 students
Used one time every other week for twenty minutes	3 students
Used two hours every day	2 students
Used one hour three times a week	2 students
Used six times a week	1 student
Used three times a week	1 student

Fourteen Maine East students said that the main activity they engaged in while connected to Prodigy was playing on-line electronic games such as GUTS and Carmen San Diego. Twelve other Maine East students said that they used Prodigy to check the weather forecast for the following day. Other Prodigy services Maine East students

reported included: writing to friends and teachers (9), sending and receiving electronic mail (6), reading their horoscope (6), browsing movie reviews (4), browsing the various bulletin boards (2), using the electronic encyclopedia (2), checking the stock market reports (2), and conducting research for homework assignments (2).

Question 4: During the summer, did you talk with (or exchange electronic mail with) other students about Project Homeroom?

Of the 78 respondents to the survey, only four did not give an answer to this question. However, 58 students said they had not used electronic mail to talk with other Homeroom students. Only 16 Maine East students said they used electronic mail to talk with their classmates over the summer. Of those 16 students, two said they discussed the same things on e-mail as they would discuss over a telephone, one talked about how fast the summer was flying by, one talked about summer school homework, and the rest did not specify what the conversations were about.

Question 5: During the summer, did you talk with (or exchange electronic mail with) any of your Project Homeroom teachers?

Of the 78 respondents to the survey, 67 Maine East students said they had not used electronic mail or any other means of communication to talk with their Project Homeroom teachers over the summer. Eight students did not respond to the question. Only three students said they contacted their Project Homeroom teachers over the summer. None of them gave any indication as to what the communications entailed.

Question 6: What do you think Project Homeroom will be this year?

Twenty-two Maine East students reported that they believed that the project would be exactly the same as it had been the previous year. Forty-one students indicated that they thought the program would be better than the previous year, more fun, more organized, and would include more use of the network which was now up and running. On the other hand, 15 Maine East students felt that Project Homeroom was going to be a lot harder, have a lot more homework, and would involve a significant increase in group projects. Five students thought the second year was going to be boring. Other descriptions included "stupid", "easier", and "bad."

Question 7: What are you not looking forward to in Project Homeroom this coming year?

Twenty-four Maine East students said that the most unanticipated aspect of Project Homeroom for the coming year was the homework and group projects that would be given to them. Another 12 students disliked the possibility of more technical problems. Teachers seemed to be another source of discomfort amongst some students as eight indicated that they were not looking forward to one, more than one, or all of the Project Homeroom instructors. Nine students did not want to use the school's network. Among the negative aspects of Project Homeroom were: the whole project (5), the loss of the

home computer at the completion of the project (4), filling out surveys (3), getting bad grades (2), and having the same teachers and students (2). Five students did say, however, that they were optimistic about everything concerning Project Homeroom. Five Maine East students did not respond to this question.

Question 8: What are you looking forward to in Project Homeroom this coming year?

Fourteen Maine East students said that they were not looking forward to anything in the upcoming school year. Another 10 students said they were looking forward to the end of Project Homeroom. Ten students reported being excited about using the school network. Another 16 students were looking forward to having fun learning more about computers. Four were hoping that they would be able to keep their computer. Other anticipated aspects of Project Homeroom included: seeing friends (3), the interdisciplinary projects (3), field trips (3), good grades (3), computer programming (2), the quick resolution of technical problems (1) and using Prodigy (1). Four students did not respond to the question, and an additional three students were still undecided.

Parent Survey #3 Themes

Question 1: What computer programs did you use over the summer vacation?

Of the 50 respondents to the questionnaire, 20 Maine East parents said that they had not used any computer programs over the summer while eight parents did not give a reply to the question. Of the remaining 22 parents who had used computer programs, nine indicated that they had used Prodigy the most. Word processing programs such as Microsoft Works and WordPerfect were popular. Six reported using Microsoft Works, while two used WordPerfect and five did not specify any particular word processing package. Other software programs mentioned included: Printshop, PFS First Choice, Lotus 1-2-3, and Harvard Graphics.

Question 2: What did you use the computer programs for?

Seventeen Maine East parents did not respond to this question. Thirteen others said that they did not use any computer programs. Of the remaining 20 parents who had used programs over the summer, six said that they used a word processor to type letters and documents. Seven parents said that they used Prodigy to find information. Other uses of computer software included: pleasure (3), business/work (2), database/spreadsheet calculations (2), and various school related activities (4).

Question 3: Did you use Prodigy? If you did, what did you do on Prodigy and about how frequently?

Twenty-seven parents said that they had used Prodigy over the summer. Eighteen parents said they had not used it at all. Five parents did not respond to the question. Of those who had used Prodigy, two indicated they had used it three times a week, two indicated they had used it two hours a week, and two others indicated they had used it

everyday for at least fifteen minutes. The remaining Prodigy users did not give an answer to the amount of time spent on it.

Twenty-one parents reported activities that they used when connected to Prodigy. Many parents reported having used a variety of Prodigy services. The most frequent response to this question was, "I used Prodigy to check out the weather, sports, and news updates." Ten parents said they used Prodigy for these services. Five parents said they checked on stocks, while three others played games. Other uses of Prodigy that were reported by Maine East parents included: reading the Soap Opera digest (1), checking on travel information (1), and shopping (1).

Question 4: During the summer, did you talk with (or exchange electronic mail with) other students about Project Homeroom?

Of the 50 respondents to the survey, eight did not give any answer to the question, and the remaining 42 parents said either that they had not used electronic mail to talk with Homeroom students, or that the question was not applicable to them.

Question 5: During the summer, did you talk with (or exchange electronic mail with) any of your Project Homeroom teachers?

Of the 50 respondents to the survey, eight did not give an answer to this question. Forty other parents said that they had not used electronic mail or any other means of communication to talk with the Project Homeroom teachers. Two parents said that they had contacted teachers via electronic mail to receive instructions for the beginning of the new school year.

Question 6: What do you think Project Homeroom will be this year?

Thirteen Maine East parents reported that they believed that the project would be exactly the same as it was the previous year, or a continuation from the previous year. Eleven parents indicated that they thought the program would be better than the previous year because it would be more organized. For instance one parent said, "I think it will be more organized than last year and hope that it will be used more as the most convenient source of information for help with homework." Four parents said that they were hopeful that the program would emphasize the use of the network in the upcoming year. One parent said, "The system is now networked so I am looking forward to my daughter doing homework and sending it to school. I hope there are tutorials for science and math for my daughter to help her with the new concepts she is learning in school." Other perceptions of the project included: increased communication between parents and teachers (2), a more detailed integration of subjects (1), "and a program that will help my child in all aspects of their life" (1). Ten Maine East parents did not respond to this question.

Question 7: What are you not looking forward to in Project Homeroom this coming year?

Thirteen Maine East parents did not respond to this question. This could be taken to mean that they did not have any negative feeling toward the program. This sentiment was specified by another nine Maine East Parents. Two comments that were made were "I am totally optimistic about Project Homeroom", and "I am looking forward to everything in Project Homeroom." Of those who did have negative feelings, six said that they were not looking forward to more technical problems such as the network not being up. Another three parents indicated that they were going to miss having a computer once the project ended, as one parent said, "I am really not looking forward to giving up the computer and Prodigy service. Together they have been a great source of reference help for homework and personal use." Other aspects of Project Homeroom that parents were not looking forward to included: filling out surveys and paperwork (3), the end of the project (2), delays and false starts (1), the somewhat inappropriate exchange of electronic mail messages between students (1), and too much homework and too many projects (1). Two parents were yet undecided about the program in general.

Question 8: What are you looking forward to in Project Homeroom this coming year?

Twenty-six Maine East parents said that the most anticipated aspect of Project Homeroom for the coming year was their children learning more about computers, the network being up, the addition of more computer tutorials, and the increased learning due to the infusion of computers into the classroom. Six other parents indicated that they looked forward to the increased communication between themselves, the teachers, and the students. Other anticipated aspects of Project Homeroom included: the learning of new subjects and concepts (3), not having to go the library (2), the improvement of grades (1), and not being as intimidated as the previous year (1). Eight Maine East parents did not respond to the question, and an additional two parents hadn't really thought about the project at all.

Student Survey #4 Themes

Question 1: Have there been any technical problems with your computer equipment? If yes, please describe what the problem was.

Twenty-nine of the total of 77 students who returned surveys did not indicate that they were having technical problems with their equipment. Of those who did report problems, printers topped the list (13), followed by problems logging onto the network (12). Eight students reported computer virus problems and six reported having broken keyboards. By and large the majority of students seemed to be reporting technical problems similar to those from the previous year.

Question 2: Which computer programs did you use most often?

Student reported using the Prodigy service most often (53) and Microsoft Works integrated software next most frequently (46). Two other applications programs were commonly referred to, a generic "Word Processor" (12) and Linkway (11). Less frequently, students reported using games (7), the school network (5), Procomm Plus, a communications package (2), and DOS (2). An example of student responses to question 2 is : "Word Processor for reports, essays. Spreadsheet; to make graphs mostly for chemistry, physics. Prodigy; for Carmen for social studies."

Question 3: What were you using the computer programs for?

Students overwhelmingly reported using the computer for assignments (42) and school (33). The other major use students indicated was using the computer for fun, pleasure, entertainment (40). Students commonly answered question three with statement like, "School assignments. I used DOS to make banners and stuff," and "School assignments mostly chemistry, history, and English work. Sometimes even math on the spreadsheet."

Question 4: What applications did you use most often while on Prodigy?

Once again, the students' responses fell into the two major categories: school work and entertainment. For example, students reported using the on-line encyclopedia (37), playing Carmen San Diego (34), sending and receiving E-mail (23), and exploring Nova, the science application (2). Other uses mentioned by students were: Sports (19), Games (15), Bulletin Boards (13), and Weather (13). Students regularly made comments such as: "I read the Teens bulletin board, wrote to friends, played Carmen for history, and used the encyclopedia for research purposes" "I was able to get updates on grades. I was able to get updates on sports. I also used it for travel and encyclopedia," and " Teen bulletin board, Ask Beth, Soap Opera summaries, communicating with people online."

Question 5: What were you using these Prodigy applications for?

Maine students reported using the Prodigy applications primarily for pleasure (48), as a hobby (8), and for their own purposes (5). The rest of the time they reported using Prodigy for completing assignments (37) for school (27).

Question 6: What kinds of things did you do most often when using the school's computer (when you logged on to it)?

Conversely, when asked about their use of the school's network, students reported engaging in almost entirely school related activities. These activities included: Downloading homework assignments (26) and uploading completed assignments (8), Putting notes (10) and minutes (5) on the network, copying files from and copying to the school network (16), communicating with teachers (10) and getting the schedule for the week (2). Common student responses were: "I never really went on it and if I did it was

to do a homework assignment," and "found out what my homework assignments were, if there was any extra, and see what went on when I missed a day."

Question 7: What were you using the school's computer for (what types of things)?

The conclusion that the students mainly used the school network for school related work only is supported by student responses to question seven. Of the 77 respondents, students reported using the network for school assignments (45) and school in general (19). Five students did not respond. A few others mentioned the use of the network for a hobby (3) or for pleasure (3).

Question 8: Please describe one example that you know of where students worked together on a Project Homeroom project. Tell us if you liked or disliked the experience and why.

In attempting to describe a Project Homeroom project, Maine students drew on a number of projects. They mentioned a Linkway portfolio assignment, a history data base on revolution, a history oral report, a chemistry oral report, and an English photo essay. Across all of these projects students repeatedly mentioned reasons for liking and disliking each project. Time and again, a dichotomy emerged between students who enjoyed working in groups and getting to know many people, and students who disliked working in groups because they felt that the work was never evenly divided. Interestingly, only three students mentioned doing everything themselves, even though a large number of students across projects mentioned not liking that one person typically ended up doing all the work. Examples of student comments include: "or the photo essay in English some students worked together because they needed a camera. I thought it was fun. We got to go all over the place and spend time with our friends." "One project we worked on in a group was a catapult lab in physics. It was with one other person only, but it was fun and the competition was better. It was cool that everybody was into it and everybody was having fun. I liked it because I won the contest of the catapult being able to hurl a gumdrop the furthest." "I didn't like [working on reports]. Some students wouldn't do anything. Sometimes we couldn't meet together."

Question 9: Please describe one example that you know of where students learned about a topic from the point of view of several different subject areas. Tell us if you liked or disliked the project and why.

When asked to describe interdisciplinary projects at Maine, many student stated that they, "[didn't] understand the question (i.e. 'No comprendo, don't understand')" (10), did not respond at all (7), or responded with unintelligible answers (7). Students commented individually on several aspects of Project Homeroom's interdisciplinary nature. Some notable comments were: "There were some things that the students did to try and combine learning when teachers tried it, it sounded forced." In a more positive vein one student said. "We learned about different aspects of Greek mythology in those portfolio projects we did for English. I liked it because it was something different and it was something we put together ourselves instead of a book." Another student

recounted, "In physics we built catapults and learned how to shoot them at a certain angle, in math we learned the calculations of the shot. We were learning Greek history and how and why they used catapults and in English we learned about Greek mythology. I liked it. It was interesting and a new experience."

Question 10: Please describe one example where you interacted with a teacher or administrator outside of regular school time. Tell us if you liked interacting with a teacher or administrator outside of school and why.

A few students said that they did not like the level of interaction with teachers in Project Homeroom (16) or that they did not remember interacting with the teachers (2). Of the other responses, most cited the use of Prodigy as their main interaction with teachers. The majority of these liked the interaction with teachers over Prodigy because of the availability of extra instruction (33), that they could find out their grades (8), and that it was better than talking in person (3).

Question 11: What advice could you give to a parent in a school that was considering putting in their own version of Project Homeroom to insure that it would be a success?

In spite of the several positive responses to Project Homeroom, several students would advise others not to attempt it (15). Among the more prevalent reasons students cite are: "Have the program organized" (11), "Make sure the equipment is ready to go" (10) and "Work the bugs out" (6), as well as "Be sure that you know what you are getting into" (6) and "They promise a lot but deliver little" (1). Solutions the students suggest are: "Be patient" (6), "Work harder with the teachers" (5) and "Make sure the teachers know how to use computers" (4).

Question 12: What have you liked least about Project Homeroom this year?

The students were quite vocal about what they did not like about Project Homeroom. Topping the list of dislikes were the technical difficulties (15) and the extra work and projects (14). Students expressing a dislike for Project Homeroom specifically stated that they disliked, "Having the same teachers for two years" (10) and "seeing the same people everyday" (10). Six people expressed disappointment that the network was not ready immediately from the first day. Six also did not want to give up their computers and six thought that the program was disorganized.

Question 13: What have you liked most about Project Homeroom this year?

When asked to comment on what they liked about the program, students reported enjoying, "working with computers" (22), the Prodigy service (9), "a free computer" (9), The teachers (12), and the "opportunity to meet new people" (6). Several also mentioned that they liked having their " own phone line" (5), the "group work" (4), and the "better organization in the second year" (3). Specific comments included: "Having my own computer and learning how to use it. I'm going to have trouble parting with it."

" Working with teachers and students. Being kind of excluded." "Getting to do projects that deal with different subjects, having a computer and interacting with different people from different classes."

Question 14: Given the choice, would you continue with Project Homeroom next year?

Only two students did not respond when asked whether they would proceed with Homeroom. Of those who did respond, those answering in the affirmative gave, "It was a great experience" (5), "I like the computer" (5), "It was fun" (4), "You learned a lot" (3), and "It will improve with time" (2) as reasons for wanting to continue in the project. Those answering that they would not want to continue in the project next year stated: "I want to meet new people" or "same teachers" (8), "I want to be in a normal class" (8), "too many computer problems", and "[I] need to experience new things" (5) as reasons for not continuing. Other comments included, "I am tired of it", " Assignments counted for more than one class", "I got marked down for work on the computer", and "It was just too commercialized."

Question 15: Additional comments

By and large the majority of students either did not choose to give additional comments (36) or stated that they had no additional comments to give (11). Those who responded reiterated "work out the bugs before you start the program", "don't make promises you cannot keep" and "I don't appreciate the commercialization." Other suggestions included, "Have different teachers", "Improve the communication" and "Have more of a variety of activities."

Students also indicted their pleasure with Project Homeroom with comments such as: "I enjoyed being in it", " I learned a lot" and "The project was a success". One student wrote, "Project Homeroom, was great while it lasted. It was a great experience. I'm never going to forget all the good times we've all shared. GOOD LUCK with future programs! Thanks for making it fun and enjoyable!"

Parent Survey #4 Themes

Question 1: Have there been any technical problems with your computer equipment? If yes, please describe what the problem was.

Sixteen of the 30 respondents to the survey did not respond to this question. Of those who did respond the majority (5) cited problems with the printer as being their main problem with the technology. Examples include: "The printer wouldn't advance the paper," "Printer didn't feed properly," "Printer didn't print right, jammed up, but is now fixed."

Other technical problems reported included: defective keyboards (2), problems with the CPU (2), complaints of the slowness of the computer (1) and problems with the phone lines (1), especially overcharges on the phone bill (1). Respondents also reported

problems with software, such as inadvertently erasing needed files or that needed files were defective (1), "My daughter accidently erased a file on DOS and wasn't capable of using the computer for one week. It was fixed." Computer virus problems also affected one respondent.

Question 2: Which computer programs did you use most often?

Of the 30 respondents to this survey, four parents chose not to respond at all, while six parents reported not using the computer at all. Maine East parents reported using electronic information services such as Prodigy (14), integrated software packages such as Microsoft Works (12), and word processing software (7). It is assumed that the word processing was done primarily through Microsoft Works. One respondent reported using several software packages not included as part of Project Homeroom. "Word Perfect 5.2 for Windows, Act II, Lotus 3.1 for Windows, note, the Project Homeroom system was one of three in our home. I had no need to use it."

Question 3: What were you using the computer programs for?

Six parents did not respond to this question, and three reported not using computer programs. Maine parents reported their use of computers as being mostly for their business (7) or work at home (5), their own school work (6), and just for pleasure (8). One parent mentioned using the computer to communicate with teachers. "I use the computer to communicate with the mini-computers at work and do other work related projects at home." "Work at home from employment and a recipe file and occasionally letters." "Pleasure and hobby."

Question 4: What applications did you use most often while on Prodigy?

Five Maine parents did not answer the question, while six parents reported not using the Prodigy service at all. When using the Prodigy service, Maine parents reported checking the news (7), stocks (6), and weather (6) most often. Next most often they engaged in the entertainment features such as online shopping (4), using the online encyclopedia (4), writing letters (3), checking the soap opera digest (3) and movie reviews (2). "Check lottery, sports, and weather." "Traded stocks, read financial news and markets." "Communicated with the teachers explored some of the advertising, shopping, library, encyclopedia."

Question 5: What were you using these Prodigy applications for?

Eleven of the 30 Maine East parents who returned the survey did not respond to question five. Only two parents reported not using applications on the Prodigy service. The majority of the parents (13) reported using Prodigy applications purely for pleasure. Other uses parents reported were: school work (5) and employment work (2), personal use (2) and hobby (2), and information (1).

Question 6: What kinds of things did you do most often when using the school's computer (when you logged on to it)?

Fourteen parents indicated that they did not use the school's computer. Seven more did not respond to the question. Those parents who did answer indicated that they did not use the school's computer but that their child would often sign on to copy assignments from the network to their CPU at home (4). One parent mentioned logging on to look at a biology tutorial. Another parent said that the "Adults in the family only logged in to send messages to [the] teacher."

Question 7: What were you using the school's computer for (what types of things)?

Twenty-three of the 30 parents did not answer this question. The remaining seven parents indicated using the school's computer for pleasure (5), homework (3), personal use (1), games (1), and as a hobby (1). For example, one parent responded, "If I used it I would probably use it for pleasure." Three parents indicated that they did not use the school's computer at all. Parent responses to this question seemed more to address their perceptions of their child's use of the school's computer and not their own use.

Question 8: Please describe one example that you know of where students worked together on a Project Homeroom project. Tell us if you liked or disliked the experience and why.

Two-thirds of the respondents (20) provided answers to question eight. Six parents indicated that they were not aware of any collaborative projects among students. Five parents indicated that the students worked in groups. Of the parents who were aware of collaborative projects, two did not like them because there was, "Seemingly not enough GROUP EFFORT. One person has to take over in a group or (he or she) will get a bad grade." Another parent said, " Our daughter's partner did no work, 'borrowed' info[rmation] our daughter had corrected, took credit for having done, and got an 'A' while our daughter got a 'B'. This was typical throughout the program. Our daughter did most of the work and her partners took most of the credit." However, two parents indicated that they liked the history project and oral report because they felt that the groups made "good cooperative effort(s)." For example: "In social studies a team of students worked on a country - all aspects. It was a good cooperative experience. [It] taught more than social studies," and "Several projects each semester were done together. The use of the computer allowed for better student to student communication when individual schedules conflicted."

Question 9: Please describe one example that you know of where students learned about a topic from the point of view of several different subject areas. Tell us if you liked or disliked the project and why.

More than half of the Maine parents who returned a survey (16 of 30) did not provide a response for question nine. Eight parents indicated that they were not aware of examples where students learned about a topic from the point of view of several

different subject areas. A few parents expressed dislike for a research paper that counted in four classes because, "I was not convinced that it would have been considered a multi-discipline project," and that the paper "could ruin grades in more than one class." Other projects parents mentioned included: "In English the kids did portfolios on different aspects of Greek culture" and "There was a Linkway picture with an essay describing it on the bottom. We liked it because there was a visual factor in the essay so that we can picture it more clearly."

Question 10: Please describe one example where you interacted with a teacher or administrator outside of regular school time. Tell us if you liked interacting with a teacher or administrator outside of school and why.

Twenty-five Maine East parents responded to question 10. Eleven of them reported that they didn't interact with teachers. Five indicated that they had interacted with teachers one time. Three parents indicated that the teachers never initiated communications with parents. Of the parents who reported interacting with teachers, some appreciated the feedback from teachers regarding their student's academic progress (2). They thought that this was an "excellent feature of the program." Parents thought that communicating with teachers via the Prodigy service was "neat" (2), "convenient" (2), and that "it was a big help. I would not have communicated otherwise" (1).

Question 11: What advice could you give to a parent in a school that was considering putting in their own version of Project Homeroom to insure that it would be a success?

Maine East parents seemed anxious to give advice to future parents in schools contemplating an innovation like Project Homeroom. Only seven of the 30 respondents neglected to answer this question. While some gave completely negative responses such as, "Don't do it" (4) and "It's not what it's supposed to be" (2), the majority of responses were positively oriented and constructive. The most prevalent sentiment among parents was, "Have the equipment ready before school starts" (8). Among the other comments made by parents were: "Talk to teachers using computers" (2), "Ask previous students" (1), "Teachers need to be given time to develop [a] curriculum" (1), and "Be patient, there will be problems" (1).

Question 12: What have you liked least about Project Homeroom this year?

Six of the 30 respondents did not answer this question. Two respondents indicated that they had no problems at all. Of those responding, five said they didn't like that the network did not work. Some disliked the "lack of follow through" in the project (2), "everything" about Project Homeroom (2), and that "It didn't do what it set out to do" (2). A few parents felt that "communication was poor" (2), there was "no feedback to parents" (1), or that "parents were not involved enough in the program" (1). Other parents were disappointed that at "not having the option to buy the computer" (2), or just "giving up the computer" at the end of the year (2). The remaining comments dealt primarily with having the same teachers (1) and same students (1) in classes.

Question 13: What have you liked most about Project Homeroom this year?

By far, the component of Project Homeroom parents liked best was simply the use of the computer (12). Parents specifically liked that the project was responsible for "bringing learning through the computer" (4), that communication with teachers was easier because of the computer (3), "the introduction of students to technology" (2), and that "it got parents to be computer literate" (1). Other parents especially liked the tutorials (1), the group activities (1), the care in researching projects (1), and overall, "having the opportunity to participate in the program" (1). Only one parent responded that he/she did not like anything about Project Homeroom and only five parents did not respond to this question.

Question 14: Given the choice, would you continue with Project Homeroom next year?

Nine parents did not respond to question 14. Of the remaining 21 parents, those who said 'yes' they would continue in the project next year mentioned that the project "got the parents and students computer literate" the majority of the time (5). Other reasons parents cited for wanting to continue included: "the children will benefit from the program" (2), that the "children will learn more" (2), and that the project will help "further the learning of technology" (2). The parents seemed confident that "the program will improve over time" (1), and that the teachers involved were "good" and "caring" teachers (1). For example: "We felt that the few teachers that were involved with Project Homeroom were very helpful and enthusiastic; the students won't see this until next year when they are more in the mainstream." Specific examples of parent comments include: "I like the integration of the computer with the homework assignments," "Everything at first does not work out well. But with time it improves. I trust that the same will happen with Project Homeroom."

Of the parents who indicated that they would not like to continue in the program, three thought that the project never delivered what it promised. For example: "My son feels that it didn't provide him the opportunity to interact in the program as it was set forth initially." "The program was not what the school projected it to be... [Student] wanted to stay in the program for the second year, hoping it would be better than the first, it was not." Once again, a few parents complained that their children had the same teachers (2) and same students (2) in class all of the time. Some thought communication between the school and the parents was poor (1) and had the perception that the program was not well organized (1). One parent commented, "You need to work out the bugs that remain in the system and make it efficient FIRST, then continue with the program." A few parents seemed the most upset about having to give up the computers (2), commenting, "You've given the student a tool, she has become comfortable with it, now you yank it away. Not fair, we thought we would have the opportunity to purchase it."

Question 15: Additional comments

Half of the parents who returned a survey (15 of 30) did not offer additional comments regarding Project Homeroom. Of those who did respond, the major complaint was the perception that "the program wasn't what it was touted to be" (4), and "We should have been given the chance to buy the computer" (3). The rest of the parent comments were split between the positive and the negative. For example, comments like, "It was a great program" (2), "computers are excellent research tools" (1) and "I'm glad my child participated" (1), were offset by "The communication between teachers and parents was poor" (1), "The computers are outdated and slow" (1), and "Sorry we participated" (1). Some specific negative comments were directed at the evaluation effort itself. For example, parents commented: "These surveys are really dumb and so are you people!" (1), "The questionnaires were poorly written... Parents should have been asked entirely different questions" (1), and "There was no evaluation of the project" (1).

Summary

Overall, Project Homeroom at Maine East High School during the 1992-93 school year seems to have progressed a great deal from the previous year. Teachers continued to struggle with curriculum wince all of the teachers were responsible for new classes or for several additional classes. This was an often cited cause of frustration. However, the teacher did report being more confident in their ability in using the technology, and were spending more time actually using the technology in their classes. The teachers seemed to feel more positive about what was being taught in the classroom even though there were changes in the curriculum from the first year to the second year. From what was observed during site visits, the number of innovative and interdisciplinary projects seemed to increase over the course of the project. There was an obvious dedication to the project on the part of the teachers and administrators.

During the second year of Project Homeroom communications between the parents and teachers increased. Parents of the Homeroom children used the computer more frequently at the end of the year, and student use of computer activities increased over the course of the 1992-93 school year. Students spent more time using their computers for "school" work, "employment" work, working on Prodigy, using the school's computer network, and communicating with teachers. They also played fewer games on the computers. Overwhelmingly, when asked about the use of their school's network, students reported engaging in almost entirely school related activities. Both parents and students reported spending less time communicating with one another over the course of the year. The decrease in the amount of time, however, was small.

At the beginning of the year Project Homeroom students were saying that Microsoft Works was the most frequently used computer program. At the end of the year, these same students reported using Prodigy more than Works. Students at Maine East also said that they used their computer most for word processing activities. There was a significant difference in the amount of time spent on this activity over the course

of the year. At the beginning of the year, students had indicated that they hoped there would be fewer technical problems. Though problems still arose with the technology, the problems were minor and were often ones that teachers had dealt with before and were more effective in helping the students deal with them.

Project Homeroom at Maine East High School seemed to develop and grow in this second year. Although curriculum and time management continued to be a concern, less time was spent learning how to use the technology in a specific class or how to bring multiple classes together for collaborative lessons. More time was dedicated for developing lessons that were interdisciplinary in nature and exciting and fun for the students. The integration of technology into lessons became the focus of school time rather than developing lessons around technology. In the end the teachers, parents, and students involved in Project Homeroom at Maine East High School have all gained a greater understanding of where the future of education is going. They have come away much more knowledgeable and have gained a great deal from the Project.

New Trier High School

School Observations

During the 1992-93 school year observers from the Technological Innovations in Educational Research laboratory at Illinois State University visited New Trier High School a total of ten times as part of the ongoing evaluation of Project Homeroom. These visits included interviews with Project Homeroom teachers, interviews of Project Homeroom students, and observations made in the classroom. In addition a team from ISU accompanied the staff and students on a field trip to the Field Museum of Natural History.

The year really began in July of 1992 when the new students to Project Homeroom attended a summer mini-computer camp with their parents at New Trier. Before taking the computers home, students were instructed in how to operate their computers, and given the chance to become familiar with the software. The camp ended with the students "breaking down" their computer set-ups, putting them back in the boxes, and taking them home. By taking the students through the disassembly, and allowing them to connect and disconnect the peripherals themselves, the New Trier staff insured that assembly problems at home would be minimized.

Perhaps the most frequent comments repeated by teachers centered upon the importance of their previous year's experiences with Project Homeroom. New Trier elected to repeat the curriculum of the 1991-92 school year with a new group of students rather than continue the project with last year's class. To continue with the previous year's students would have meant continuing to create curriculum as they went. It would have meant continuing to "trail-blaze" into unknown areas and deal with potentially even more problems. Instead the staff at New Trier elected to capitalize on the gains made in the first year by reviewing and refining the previous year's curriculum.

In the end, this plan served New Trier well. The students seemed less intimidated by the technology and seemed to adapt more easily to the curricular requirements. In December of 1992, one teacher made the point, "The kids this year are where the kids last year were in March." The teachers especially seemed more confident about where they were going with the interdisciplinary curriculum. By repeating the previous year with new students, they were able to have the majority of the technology available from the start. They also had a previously tested curriculum to use as a guide on which to elaborate. Throughout the year, the teachers reiterated to the ISU team, "We know what we're doing this year." A Project Homeroom teacher at New Trier emphasized the importance of repeating last year's project with the assessment, "The main part is having everything up and running. But you can't learn it unless you actually do it and go through it, because no matter what you plan and what you practice, until you get in the classroom, and until the kids are actually using the equipment, you're not going to know how it's going to go."

In January of 1993, the ISU team conducted interviews with the Project Homeroom students in their classes. Overwhelmingly the students major topics of interest were the teachers and the technology. The students were most impressed with the teachers' willingness to make an effort to get to know students. Students characterized their relationships with teachers as "like [a] family." Students appreciated that the teachers would maintain close contact with them outside of school hours. Teachers were seen as using Prodigy and the telephone to keep students informed of grades and assignments. Students especially appreciated that the teachers would often get back to student the same night with answers to homework questions. The students often cited the teachers' special abilities and expertise in working together to show students how the various disciplines were interrelated.

The major response made by students in interviews regarding their use of computers was that the computers made learning fun. They thought that using the computer would be beneficial to them in the future and that the computer helped them to be more organized. In addition to using Prodigy to communicate with their teachers, students used it to communicate with friends, keep up to date on the presidential elections, and play games and engage in bulletin board discussions. Interestingly, the students said that they felt motivated to keep up with the news in newspapers as well as on Prodigy.

The students did have some critical comments concerning parts of the Project Homeroom implementation. Scheduling for this year's group (like last year) was very important to the students. While some disliked being with the same people for a large part of their day, others reported that they enjoyed the added familiarity and comraderie that Project Homeroom provided. Another aspect of scheduling students mentioned was that all of the Homeroom classes took place in the morning. While some students complained that this was very difficult, others related that this made the afternoon comparatively light. Once again, there were mixed opinions.

The students' main problem with the program seemed to come from the technology and their attempts to learn to use it. Technological problems such as computer or printer malfunctions or misunderstandings in their use sometimes made things difficult for the students. However, these difficulties were usually of the type the Project Homeroom teachers and technical support staff had already seen, so the impact of these problems was not as great as in the previous year. The students were most concerned that students and parents know more about computers and technology prior to participating in Project Homeroom. They specifically suggested a seminar for parents in addition to the summer camp for the students.

The team from ISU was continually impressed with the amount of technology available to the students and teachers in the classrooms. The teachers had live cameras, multimedia computers, CD-ROM, laser disk, and multiple television monitors in the classrooms at their disposal. This technology was used primarily as demonstration aids in classes. For example, in biology the team observed an informative simulation dealing with aquifers and the cycles of evaporation and condensation. The geometry teacher

often used a graphing program to aid his lectures and help the students to better grasp the interrelated concepts (i.e. similar triangles, congruence, etc.) covered in geometry. This was especially helpful to students having trouble visualizing their proofs. In geography, the teacher often used spreadsheets and the PC-Globe software to aid students in understanding the relationships among populations of peoples, their various economies, exports, imports, natural resources, etc. Finally, observations in the English classroom often found the students in a microcomputer laboratory engaged in various stages of writing using a wordprocessor. The use of technology in all classes was especially enriching to students because in the majority of cases, the software utilized was the same software the students had available on their own computers at home. When the software used was not on the students' computers at home, it was usually available through the school server. One student explained the usefulness of the school server, "When I was sick one day, I called [the server] up and [the teacher] had put all of my homework on there. So I called up the server, saved [my homework] to a disk, and brought up the documents and printed [them] out and did the worksheets... I had it all done the next day so it was no problem." All in all, student use of technology at New Trier was definitely enhanced and encouraged by its use in the classroom.

In addition to the technology use in the New Trier classrooms, the team of observers from ISU often witnessed examples of team teaching among teachers, and collaborative learning among students. In every classroom, the team observed students working together to solve problems. By building from the first year curriculum, the teachers in Project Homeroom were better able to plan ahead for specific interdisciplinary units throughout the year. Their previous experiences with the curriculum also allowed them to identify places where the subject areas naturally overlapped enabling the teachers to plan for short term interdisciplinary units. For example, biology and english were combined for one unit where the students were asked to write a mystery story based on some environmental problem. Throughout their stories, the students were encouraged to include information they gained from geography and geometry as well as their non-Project Homeroom classes.

Two exemplars of interdisciplinary education involving the use of technology stand out from all of the other observations. The first was a follow-up to a trip the team had previously taken to the Field Museum in Chicago during the fall of 1992. On this trip, the students were involved in a number of activities for each of their classes based on the various exhibits. This exemplar focused primarily on the Egyptian exhibit. This exhibit depicted life in ancient Egypt and began as a primarily "geography" assignment. The students walked through an ancient mastaba, an Egyptian marsh, and an Egyptian marketplace. They also observed parts of early Egyptian daily life such as religious beliefs and burial rites. While at the museum the students saw a well preserved Egyptian mummy female whom the teachers referred to as Lady X. This field trip took place in December of 1992.

In February of 1993, the geography and biology teachers conducted a joint lesson in which the students performed an autopsy on Lady X. The students were broken up into groups and given packets of information concerning the life of Lady X. The groups

deciphered and read news bulletins containing Egyptian hieroglyphics. They used Prodigy's on-line encyclopedia, the electronic atlas, PC Globe, and the New Trier on-line library to gather information about Egypt and Lady X's daily life. Each group was given one section of an autopsy report of a real mummy. The groups then acted as subject area specialists in bones, heart and blood, lung, parasites, embalming and chemical, dental, skull and pelvic, and x-ray. In order to complete the assignment, each team had to send representatives out to the other teams to collect the pertinent information the other teams had. Meanwhile each team had to thoroughly brief its members, leaving at least one behind to brief members of other teams on their specific subject area. That is, the heart and lung team had to brief a spokesman on the heart and lung information given for the autopsy of Lady X so that their spokesman could act as a subject matter expert for visiting members from other teams. The rest of the heart and lung team would be busy visiting the other subject matter experts and training themselves in that area's information so that they could report back and brief their group. After all groups had exchanged their information each group was to construct a completed profile of Lady X. Finally, each student was asked to write a life story for Lady X based upon the information gathered in class and from the other electronic sources.

This exercise was a good example of interdisciplinary/cooperative education. The individual teams quickly divided labor among themselves. They read and digested the information given them as subject matter experts. Representatives from each team were left to brief others while the remaining team members went to the other groups gathering information from the other experts. Students consulted PC Globe and the other electronic resources for additional information. The students involved in the information retrieval gave the impression that they knew exactly where to look for the information. The ISU team observing the exercise saw that students' conversations were on task and focused. The room was filled with bustling activity. Overall, the students were exceptionally engaged in this activity.

The second exemplar of Project Homeroom was the student final project. Students worked in self selected groups of four to research and present various topical issues, such as the disclosure of AIDS test results, world hunger, and recycling. the group researched the issues, bringing in aspects of all their courses (geometry, biology, geography, and english). They then developed multimedia presentations.

Each member of the four-person group took on one of the following roles:

1) Group Leader / Teacher Liaison - responsible for the group meeting deadlines along the project time-line, coordinating with teachers for supplies and equipment, etc.

2) Audio visual / Technology person - responsible for the groups use of technology.

3) Research coordinator - responsible for organizing the research and directing the data collection for the group.

4) Note taker / Typist - responsible for chronicling the group's progress toward completion by taking detailed notes of all group meetings, typing the outline and bibliography of group research sources, and turning in progress reports to the Project Homeroom teachers at the appropriate deadlines along the project time-line.

On May 25, 1993, the ISU observation team attended the students' presentations of their projects in the New Trier EPI Center. Three groups presented their projects to the teachers and each other during each class period. The remaining students not presenting during that period were free to have a study hall, go to their other non-Homeroom classes, or come to the EPI Center and watch the presentations. During the first presentations, the EPI Center was filled with students.

Each presentation was allowed a total of 15 minutes. Five minutes were given for preparation of the technology, and 10 minutes were allowed for the actual presentation. By and large the students met this time line admirably. None of the presentations were under the time limits and those that exceeded the time were mostly due to "glitches" with the technology. For instance, projecting a slide out of order, the dialog getting ahead or behind the technological presentation, or the difficulty of getting the appropriate language on a dual-language soundtrack represented some of the problems students had with the technology. These "glitches" seemed to be caused more by a lack of familiarity on the students' parts than real technical problems with the equipment. Given more time to practice and coordinate their presentations "hands-on" in the EPI Center, these minor problems would probably have been eliminated entirely.

The ISU team was very impressed with the imagination, knowledge, and ability of the students presenting. One group discussed the issue of AIDS and the disclosure of test results to patients and to their prior sex partners, I.V. drug using partners, etc. This group's presentation took the form of a debate, cast as a courtroom role play. The students acted the parts of judge, prosecuting and defense attorneys, defendant, plaintiff, and expert witnesses. The expert witnesses presented their information using video laser-disk, spreadsheets and graphs, and Linkway combinations of digitized pictures and text. All of the presentation aids were augmented by the stereo audio system and full-color overhead projection system available in EPI Center.

Students watching this presentation were absolutely rapt. Their full attention was on the presenters. None of the usual side comments and conversations common to teenage students were observed during the presentation. Indeed, for the majority of the presentations the students in the audience seemed highly engaged in the information being shared. The students showed great imagination in combining the interdisciplinary aspects of their presentations. They came up with imaginative presentation scenarios (i.e. the courtroom drama), and by and large they molded all of the pieces together so that the presentations flowed naturally and did not seem stretched. Where a graph or statistic was needed, it was used. When a reference to lifestyles and culture was needed, it was made. The students did an excellent job of presenting complex information in an understandable way. At no time did the presentations seem like the

students were including a reference to science, math, or the other disciplines simply because it was next on the list and had to accomplished in order to get a good grade.

Reported use of, and comfort with, the computer

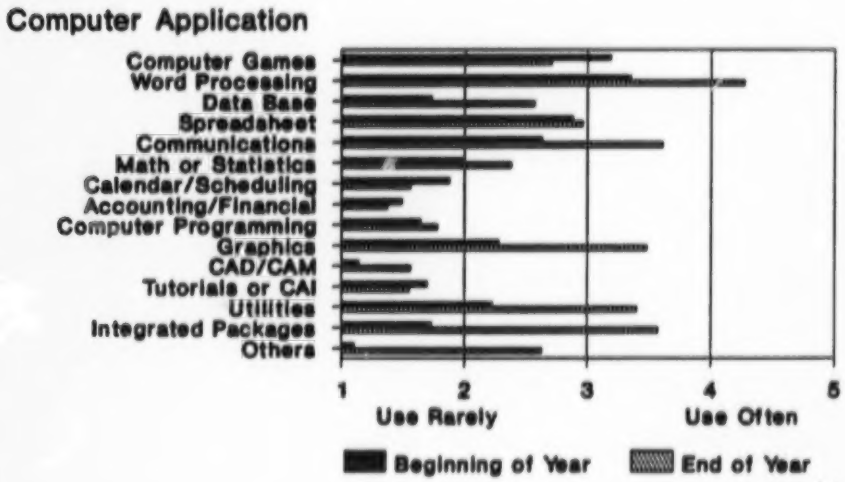
Students and parents were asked, once near the beginning and then again at the end of the school year, to describe their utilization of their computer. Questions focused on 15 separate computer applications, asking for reports of both the relative amount of use and comfort in that use. All questions were on a five-point semantic differential scale type, ranging from a score of 1 meaning "used rarely" and "uncomfortable with using" to a score of 5 meaning "used often" and "very comfortable with using". These data were collected and analyzed using a before-then-after t-test. This analysis was designed to ascertain if a statistically significant change had occurred from the beginning to the end of the year in either use or comfort level in any of the 15 computer application areas. A side-by-side bar graph displaying this information is presented on the following page.

Students at New Trier High School reported using word processing applications the most. Computer games, spreadsheets, communications, and graphics were also frequently noted by the students. Least used were Computer Aided Design (CAD)/Computer Aided Manufacture (CAM), accounting/financial, and other undesignated software applications. Several notable changes in computer use occurred from the beginning to the end of the year. Students reported spending significantly less time using the computer to play games (from 3.19 to 2.71, $t = 2.02$, $p = .046$), while statistically significantly increasing their reported use of the computer for applications like word processing (from 3.34 to 4.27, $t = 4.96$, $p = .000$), data base (from 1.73 to 2.57, $t = 3.77$, $p = .000$), communications (from 2.63 to 2.61, $t = 3.67$, $p = .000$), graphics (from 2.28 to 3.48, $t = 5.18$, $p = .000$), utilities (from 2.23 to 3.40, $t = 4.08$, $p = .000$), integrated packages (from 1.73 to 3.57, $t = 6.69$, $p = .000$), and other undesignated software (from 1.00 to 2.63, $t = 2.60$, $p = .035$). Students reported being most comfortable with computer games, word processing, spreadsheet, graphics, and communication tasks. Their comfort level with all 15 applications also rose during the course of the year. The degree of increase was statistically significant (at $p < .05$) in all of the applications except computer games, calendar/scheduling, accounting/financial, computer programming, and tutorial/Computer Aided Instruction (CAI).

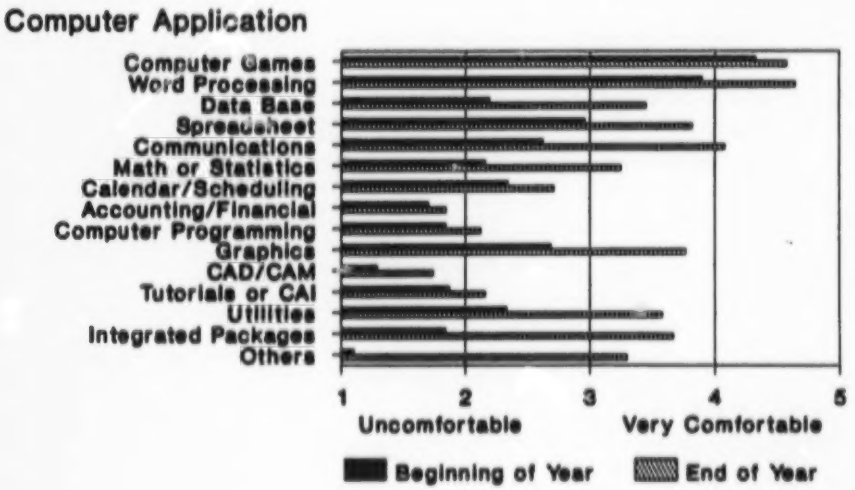
New Trier parents were somewhat more conservative in their computer use, favoring word processing applications significantly more than any other. Use of the remaining computer applications tended to be higher in data base, spreadsheet, games, and communications than others. Over the course of the year parents reported a statistically significant increase only in their use of the computer for word processing (from 2.87 to 3.70, $t = 2.08$, $p = .042$). It was of little surprise that parents also reported being the most comfortable with word processing tasks, followed by computer games, accounting/financial applications, data base, and spreadsheet tasks. Except for the application of computer programming parents uniformly reported a rise in their comfort level with the computer. This increase was large enough to be considered

statistically significant (at $p < .05$) in word processing (from 3.07 to 3.95, $t = 2.22$, $p = .030$) and communications (from 2.00 to 2.80, $t = 2.01$, $p = .049$).

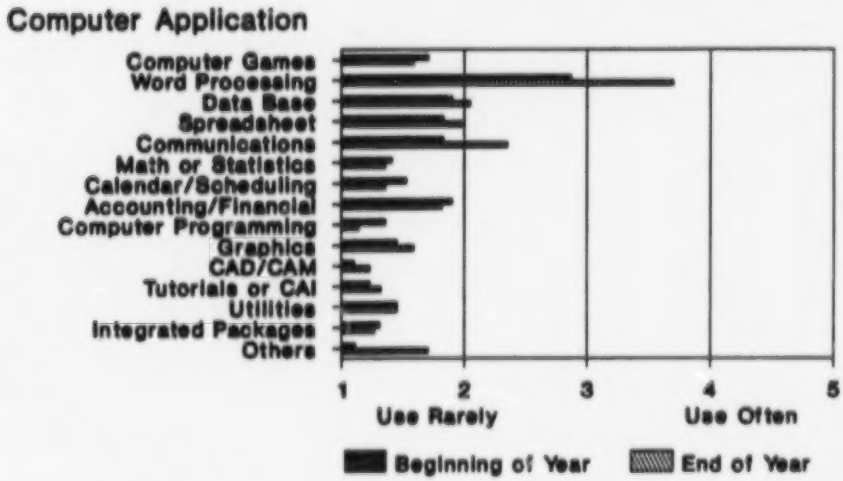
New Trier High School
Student Reported Use of Computer



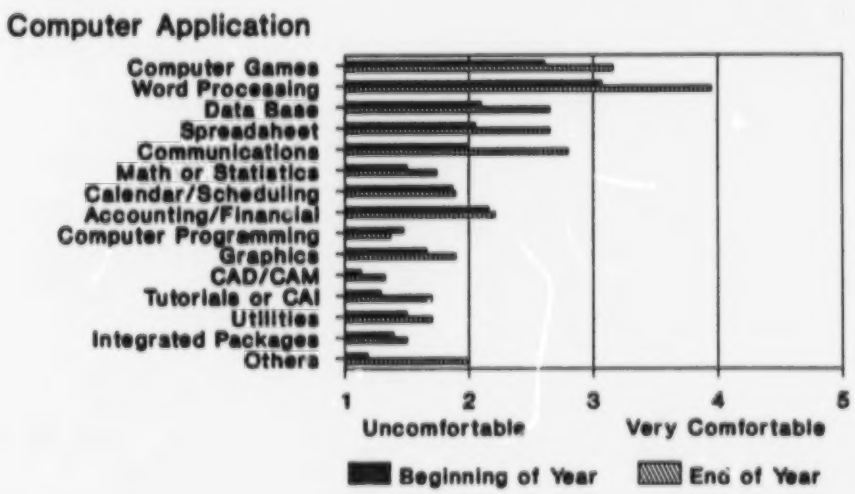
New Trier High School
Student Reported Comfort with Computer



New Trier High School
Parent Reported Use of Computer



New Trier High School
Parent Reported Comfort with Computer



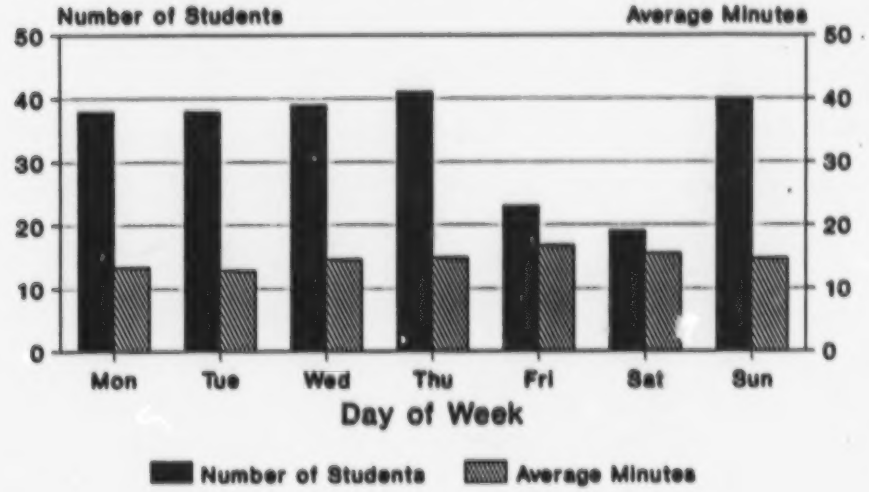
Reported time in telecommunications activities

As part of the final written survey participating students and their parents were asked to indicate the amount of time they used the computer for telecommunications activities during a typical week. Parents and students related the number of minutes each day they spent using both the Prodigy service and their school's local area network. The number of respondents who indicated spending at least some time in either activity was totaled, and an average computed for the number of minutes typically spent each day. A bar graph displaying this information is presented on the following page.

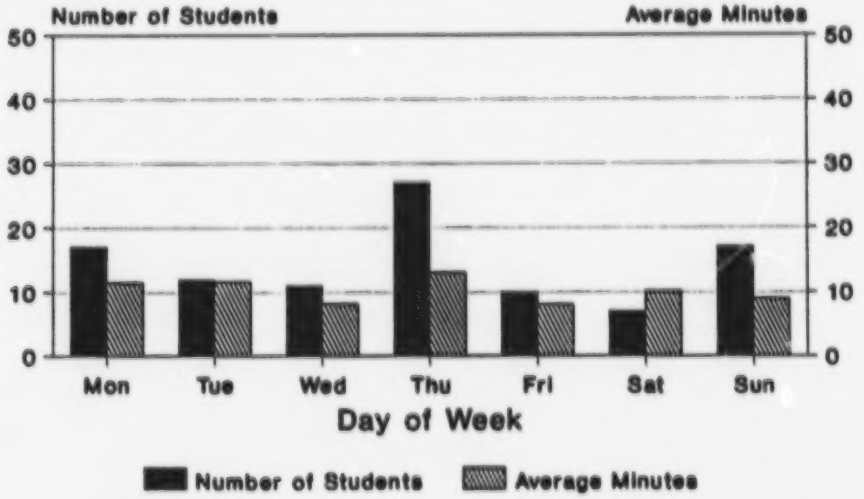
An average of 34 New Trier students reported spending at least some time each week using Prodigy, while only an average of 14 reported spending some time connected to the school's local area network. On average more time was spent in telecommunications activities on Thursday than any other day of the week, although usage was fairly consistent Monday through Thursday and on Sunday. Students also reported spending less time using the school network on Friday and Saturday than on other days. More students reported spending a somewhat larger amount of time using Prodigy than using the school's network. No statistically significant differences were found in the number of students using the two services on any given day of the week. Likewise, no statistically significant differences occurred in the amount of time spent on either of the two services on any given day of the week.

An average of eight New Trier parents reported spending at least some time each week using Prodigy, while only an average of three reported spending some time connected to the school's local area network. More parents reported spending more time using the Prodigy service although several parents reported being quite active on the school's local area network. The weekends showed the heaviest use for Prodigy. Use of the school's network was consistent except on Friday and Saturday. These data clearly show that using the Prodigy service was the more popular telecommunications option exercised by parents. No statistically significant differences were found in the number of parents using the two services on any given day of the week. Likewise, no statistically significant differences occurred in the amount of time spent on either of the two services on any given day of the week.

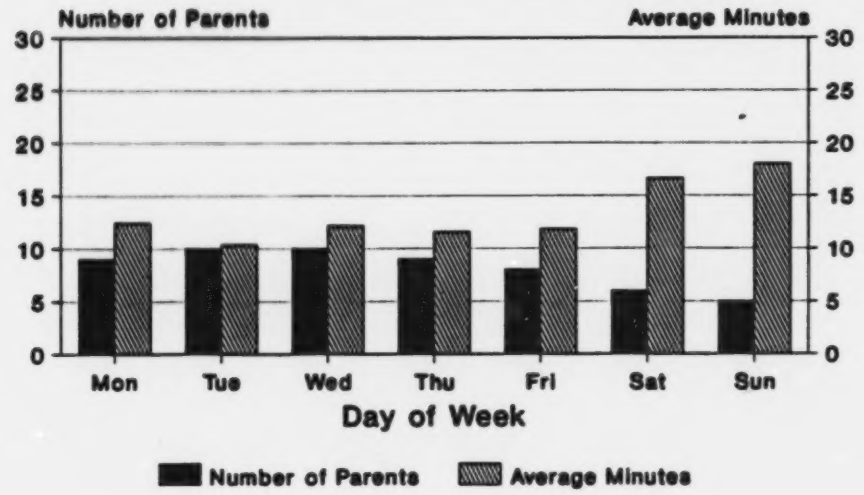
New Trier High School
Student Reported Use of Prodigy



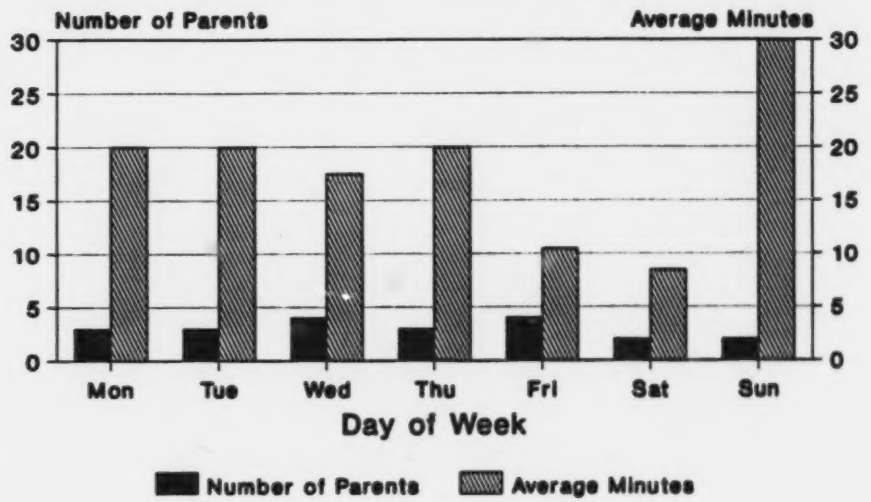
New Trier High School
Student Reported Use of School Network



New Trier High School
Parent Reported Use of Prodigy



New Trier High School
Parent Reported Use of School Network



Reported time in related activities

During the school year 1992-93 both parents and students at New Trier experienced modest to large changes in the amount of time they spent engaged in activities involving the computer at home as well as those activities that did not involve using the computer at home. Students experienced a four percent drop in the amount of time that they spent using the computer to complete school work at home. The percent of time they spent using the computer for school work at home remained fairly constant, and the amount of time spent using the computer to communicate with teachers and other activities increased. This evidence suggests that the nature of homework changed for these students in such a way as to be more computer related. Given the corresponding decrease in the amount of time they spent watching television and the increases in student time devoted to reading, participating in a club, or simply relaxing we conclude that the students in Project Homeroom are engaging in more structured uses of their available time.

Parents of Project Homeroom students also experienced marked changes in their use of available time at home. Parents as a whole increased the amount of time they spent engaged in using the computer to complete their own school work and seemed to be bringing more of their employment type work home with them to be completed on the computer. Parents experienced the largest shift in their use of the computer to access the Prodigy service. With their increased engagement with the computer it is not surprising that they experienced major decreases in the amount of time they reported in watching television and in simply relaxing or doing nothing at all. That is, parents' unstructured, relaxation time seems to have shifted from such activities as watching television and doing nothing to using Prodigy and watching movies, concerts, or plays. These data are summarized on the following table.

Activity	Student Responses		Parent Responses	
	Start	End	Start	End
Activities not involving the computer				
"School" work at home	16.03%	12.64%	2.65%	1.70%
"Employment" work at home	2.55%	2.38%	8.85%	5.97%
Watching television	8.39%	5.68%	15.81%	13.17%
Listening to the radio	6.43%	6.40%	9.72%	9.08%
Listening to records, tapes, or CD's	8.54%	7.57%	3.90%	5.75%
Talking with friends on the telephone	4.91%	6.63%	5.65%	4.25%
Visiting with friends in person	9.28%	8.86%	8.23%	6.71%
Reading pleasure books or magazines	3.28%	4.56%	10.26%	11.33%
Doing a hobby, art or craft	2.53%	2.23%	4.23%	4.21%
Participating in a club or group activity	2.70%	3.30%	3.80%	2.25%
Participating in a sport or exercise	8.45%	7.58%	6.80%	6.49%
Relaxing (doing nothing at all)	4.22%	6.89%	5.88%	1.96%
Watching a movie, a concert, or a play	3.41%	3.08%	3.83%	7.06%
Attending a sporting event	2.25%	2.48%	2.25%	2.97%
Activities using the computer at home				
"School" work using the computer	5.95%	5.48%	.42%	1.15%
"Employment" work with the computer	.20%	.56%	2.33%	4.24%
Communicating with an Administrator	.12%	.36%	.00%	.00%
Communicating with a Teacher	.70%	1.36%	.00%	2.03%
Communicating with a Parent	.83%	1.09%	.00%	.10%
Communicating with a Student	1.40%	2.15%	.16%	.10%
Using the school's computer network	1.08%	1.84%	.03%	.19%
Working on Prodigy	2.73%	2.71%	1.04%	5.30%
Playing games or other entertainment	3.08%	2.16%	1.28%	1.33%
Other purposes	.97%	2.04%	2.86%	2.67%

Attendance

The number of days each participating student was absent was obtained from school records. Project Homeroom students were absent an average of 1.89 days during the Fall 1992 semester and were absent an average of 2.95 days during the Spring 1993 semester. These averages are below the school-wide average for days absent, below the figures reported for the Project Homeroom group during the first year's first semester and slightly higher than the figures reported for the Project Homeroom group during the first year's second semester. Although the rate of absence increased somewhat in the second semester this change was too small to be considered statistically significant.

Grades

Course grades for each Project Homeroom student were also obtained, and are summarized in the table below. In the first year of the study the grades of students taking similar, but non-Project Homeroom courses were also obtained. Comparisons were drawn between the Project Homeroom students and their non-Project Homeroom counterparts. Although repeatedly requested the grades of suitable comparison students were not made available in this second year to the research team for the purpose of comparative analyses. Unfortunately, the unavailability of this comparative data resulted in no grade analyses being performed. This table is presented for information only.

Subject		A	B	C	D	F	P
English	92FS	14.8%	53.7%	31.5%			
English	93SS	9.3%	59.3%	29.6%	1.9%		
Geometry	92FS	17.0%	26.4%	39.6%	17.0%		
Geometry	93SS	18.9%	28.3%	39.6%	9.4%	3.8%	
Geography	92FS	20.4%	59.3%	20.4%			
Geography	93SS	13.0%	64.8%	20.4%	1.9%		
Biology	92FS	14.8%	40.7%	38.9%	5.6%		
Biology	93SS	16.7%	31.5%	38.9%	11.1%	1.9%	
Other	92FS	28.3%	45.4%	16.4%	2.6%	0.7%	6.6%
Other	93SS	31.0%	36.7%	22.2%	4.4%	1.3%	4.4%

Student Survey #3 Themes

Question 1: In your own words, what is Project Homeroom?

Of the 52 respondents to the survey, only five did not answer this question. The remainder of the respondents had numerous descriptions of Project Homeroom. Twenty-four students said that Project Homeroom was learning to use the computer and communication technology to expand education and become computer literate. One student said, "Project Homeroom is simply using computers and communicating electronically. It is a way to learn computers, understand how classes relate, and get more advanced and experienced with computers." In a somewhat similar description of the project 15 students considered Project Homeroom a program that developed a new way to do school work (on computer). Eight students described Project Homeroom as a program that emphasized interdisciplinary teaching and collaborative and group learning. Other descriptions of the project included: a program that has teachers communicating to one another (3), an experiment (3), a project with your home room (2), a program that ties school work to our future jobs (2), a wonderful project (2), a program that is a pilot program for the future (2), and a project that gets kids and parents working together (2). Interestingly enough, seven students said the program was "a lot of hard work."

Question 2: Why did you decide to participate in Project Homeroom?

Thirty-eight of the 52 students who responded to this survey reported that the main reason they participated in Project Homeroom was to become computer literate, more educated about computers, and to understand that computers were important for the future. One student said, "Project Homeroom will give me the chance to familiarize myself with a computer while learning outside the classroom, and it is essential for the future." Nine students said that the main reason they decided to participate in the project was because it sounded like it would be a lot of fun, while seven others said that it had been recommended to them by either their parents or a friend. A less frequent reason was to receive a free computer. Only three students gave this response. Other responses given for participating in Project Homeroom included: it would look good on a college application, it would be easier than before, it would give one an edge on other students, it would be a challenge, it would give one the opportunity to use a modem and Prodigy, and it would allow one to have a computer oriented education.

Parent Survey #3 Themes

Question 1: In your own words, what is Project Homeroom?

One-fourth of the respondents to this survey said that they thought Project Homeroom was an opportunity for students to experience learning through the computer, where technology (especially communications technology) is integrated with regular academic learning, "an integrated learning experience - computers, classroom, technology." Nine parents said that the project was an opportunity for teachers, students, and parents to communicate on a more personal level. Five others reported

that Project Homeroom was a computer network that integrates subjects into a more interdisciplinary approach. Five parents said that the project was an attempt to bring the home and school closer together. Examples of this theme include: 1) "[Project Homeroom is] an opportunity to bring school and home closer together - to be able to use the library at home and communicate with teachers, students, and work on assignments at the same time."; 2) "Project Homeroom is an experimental program sponsored by IBM and Ameritech in conjunction with various schools where the students are computer based at home connected to Prodigy, their teachers, and the school library."; and 3) "[Project Homeroom is] a complete link between (student) at home and fellow students and teachers at school and at home."

Another description given by New Trier parents dealt with the future of education. Five parents in one manner or another indicated that Project Homeroom was the classroom of the future. One parent said, "Project Homeroom is the future of education. Using computers as a tool to link home with school teachers and resources." Five other parents said that the project was an interesting or innovative method of doing schoolwork. Project Homeroom was also described as being: a program where one learns about computers (5), an opportunity to access a wealth of information (3), a program that helps students with future skills (3), a program that extends current, static forms of learning (2), and a challenging program (1). On the negative side, one parent said Project Homeroom was "a marketing gimmick." Ten of the respondents to the survey did not give an answer to this question.

Question 2: Why did you decide to have your child participate in Project Homeroom?

Twenty-four of the 48 who responded to this question reported that the main reason they had their child participate in Project Homeroom was to help their child become computer literate, more educated about computers, and to understand that computers were important for the future. As example:

1) "to increase his knowledge of computer skills. He was interested in the program and doing it was a great opportunity for him and the whole family."
2) "to acquire what I believe will be necessary technical competence in technology."
3) "to let my daughter learn more about computers."
4) "because computer knowledge is essential."
5) "so that he could have the opportunity to master a knowledge of the computer world."
6) "so that he could become more computer literate and take advantage of learning to be able to communicate electronically with teachers and other students. We realize computers are and will be very important and feel that this experience will be very beneficial to him in the future."
7) "because we felt it was a unique opportunity to experience advanced technology on a first hand basis. Thought it would add a new dimension to learning."

Twenty-one other parents said that they had their children participate in Project Homeroom for one of seven reasons: 1) to develop new skills (4 parents), 2) it was a

good learning experience (4 parents), 3) their child told them they wanted to (4 parents), 4) so that the family as a whole can learn about computers (3 parents), 5) to increase motivation towards school work (3 parents), 6) because it was recommended to them (3 parents), and 7) to improve their child's academic skills (2 parents). One parent went on to say that she thought Project Homeroom would "introduce her daughter to new interactive learning and expose her to new faculty and modes of learning and thinking and showcasing information for life."

Student Survey #4 Themes

Question 1: Have there been any technical problems with your computer equipment? If yes, please describe what the problem was.

Twenty-nine of the 52 respondents did not answer this question. Of the remaining respondents, seven reported problems with the modem, four reported problems with Prodigy, and three had trouble with the printer.

Question 2: Which computer programs did you use most often?

The most frequently used computer program was Works, with 46 respondents saying they used it most often. Prodigy was the second most frequently cited program, with 31 reporting it as the most frequently used. Sixteen said Linkway was among their most frequently used programs, and nine said PC Globe. Many respondents cited multiple programs as being most frequently used.

Question 3: What were you using the computer programs for?

Far and away the most frequent application of the computer for Project Homeroom was school work. Forty-four respondents reported this use. Eighteen used the computer programs for pleasure, with Prodigy being the most frequently cited program. Others used the computer for hobbies (6), animation (2), and communication (2).

Question 4: What applications did you use most often while on Prodigy?

Students used Prodigy most often for communication, with e-mail cited 36 times as the most frequently used application. Information gathering was also important to New Trier students. Fifteen students used Prodigy most often to access the news, 18 the weather, 13 sports, and 11 used the capabilities to access the encyclopedia. Other common uses were hobby and game related, with five each interested in the horoscope, the bulletin boards, and the games. Three cited columns, with Ask Beth mentioned twice.

Question 5: What were you using these Prodigy applications for?

Thirty-three respondents said that they used the Prodigy applications for school work, and 36 said they used them for pleasure. Seven cited hobbies as their reason for using the Prodigy applications, and four used Prodigy for research.

Question 6: What kinds of things did you do most often when using the school's computer (when you logged on to it)?

Students used the school's computer most often to gain access to practice tests and binder checks in biology. Seventeen respondents reported this use, saying things like, "I would look into the programs that my biology teacher put in to help me review for tests." At least two respondents had difficulty with this process, however, with one saying "I'd log in to get the biology practice tests, but logging in didn't work well, because I'd literally have to start over seven or eight times in order to get it to connect." Other students used the school's computer to check their grades (5 respondents), and get school assignments (8). Four students reported not using the school's network.

Question 7: What were you using the school's computer for (what types of things)?

Thirty-nine students said that they used the school's computer for school assignments. Six cited pleasure as their reason for using it. Five students did not respond to this question.

Question 8: Please describe one example that you know of where students worked together on a Project Homeroom project. Tell us if you liked or disliked the experience and why.

On the whole, students were quite positive about their experiences working together with their classmates. Students said things like, "I liked it a lot because if you didn't understand something on your computer then someone in your group could explain it to you." Some noted efficiency in working in groups, saying, "It was quicker and more effective to complete the project with a group rather than an individual. It brought the group together and it was very rewarding to see and participate in a group where success was continuous." The final project, in which students were to use all four disciplines to enhance their understanding of a controversial topic, provided the foundation for many students' comments.

When negative comments arose, they tended to focus on issues of working with groups. "Teamwork is essential to life but more problems arise when you work in numbers. It jeopardizes your grade as well as others and you lose close friends because of it." Some students cited unequal workloads, saying, "We worked together on papers and a final project. To tell you the truth I hated it because I was always doing the work."

Question 9: Please describe one example where you learned about a topic from the point of view of several different subject areas. Tell us if you liked or disliked the project and why.

Once again, the final projects were the most frequently mentioned interdisciplinary projects. Students particularly appreciated the connections they saw, making comments such as, "Our last project had to incorporate all subject areas and was a good learning experience to see how all areas of school are a part of everything we do in society." In discussing the trip to the Field Museum, one student said, "...we learned several things concerning different points of view such as cures for HIV. It was a good experience because you can see how everything fits in together." Other projects mentioned included the Biology-English unit in which students studied evolution by reading Inherit the Wind and learning about the issue from the point of view of creationists and evolutionists. One student said, "This was a fun project because of the many different ways for which you can present this."

Clearly students were in tune with the notion that they were to understand topics from several points of view, and that by doing so, they would be enriched. "I always heard before that 'you'll use it someday.' I never could figure out how every subject fit together. But now because of what we learn in geography, english, geometry, and biology, [they] can work together, intertwine."

Negatives focussed almost solely on the amount of work, with one student complaining, "When we went on field trips we had combined packets of different subjects. We really had no fun on them because all we did was work."

Question 10: Please describe one example where you interacted with a teacher or administrator outside of regular school time. Tell us if you liked interacting with a teacher or administrator outside of school and why.

Twenty-nine students reported contacting their teachers for help with class work. Their feelings about doing so were very positive. "This was such an advantage having your teachers at your beck and call. Always being able to reach them and ask them very important questions." "I had a test in biology and needed some help. I went in after school and asked my biology teacher to help me understand the test better. He helped me a whole lot and I did well on the test." "I call them and write them on Prodigy. I think this is VERY helpful and it should be encouraged."

Students also appreciated the opportunity to get to know their teachers better. "I like interacting with teachers outside of school [because the students get to know the teacher better and they can feel more comfortable around them." Others felt that their getting to know teachers outside the classroom helped them in school as well. "I got to know the teachers very well through Prodigy and developed a close relationship with them in school." Not all students were afforded this opportunity. Of the 52 respondents, eight said that they never contacted their teachers outside of school. It is interesting that none of the student respondents mentioned teacher initiated contact.

Question 11: What advice could you give to a student in a school that was considering putting in their own version of Project Homeroom to insure that it would be a success?

Seven students had no response to this question. Those who answered tended toward addressing "people involved" issues, with students suggesting that the school "choose fun teachers", not limit the number or kinds of students involved. Others said that people should learn from experience. Several said, "Just try it because it works," and "Just try it. Even if you won't like it, make an experience out of it. Definitely go for it. It's our future." Three students were quite blunt in their support for the way New Trier had implemented the program, one student in particular echoing the comments of others by saying "Do it like New Trier."

Question 12: What have you liked least about Project Homeroom this year?

Thirteen students disliked the amount of work involved in Project Homeroom. One said, "My grades were not as good as they usually are. There is twice as much work in TEAMS." Another said, "More work than a[n] average class," but added, "this is not a[n] average class so that makes up for it." Seven said that they disliked that they spent so much time with the same people. Five students had no response to this question. Five cited problems with computers or lack of knowledge on the part of teachers.

Question 13: What have you liked most about Project Homeroom this year?

The thing students liked the most about Project Homeroom was that they got to use the computer. Nineteen stated that this was the best part of the project for them. One said "It's easy to get to and write papers." Another said the "computer was awesome!" Others mentioned interpersonal reasons for liking Project Homeroom. Nine said they liked the teachers, one saying, "I think [certain teachers] have made this project the most enjoyable." Another said, "...we can talk to our teachers and they understand and are nice." Six said that they liked communicating with students and teachers, and five said that they enjoyed getting to know people.

Question 14: Given the choice, would you continue with Project Homeroom next year?

Ten students did not respond to this question. Most of the students who responded seemed to favor continuing. Eight said the program was fun and five said it was a great experience. Six would continue in order to have continued access to the computer. Five stated that Homeroom helped them learn. Those who said they would not continue gave a variety of reasons, including "too much hassle", too much work. Three said that one year was enough.

Question 15: Additional comments

Forty-two students had no additional comments. Five comments summed up the project by saying that it was a good experience or a fun experience. One said that there should be a better orientation to computers at the beginning of the program. This related to another comment by another student who said that the teachers needed to be more knowledgeable about the computers.

Parent Survey #4 Themes

Question 1: Have there been any technical problems with your computer equipment? If yes, please describe what the problem was.

Almost three-fourths of the parents who replied to the survey did not respond to the question. Of those who did respond (7 people), three indicated that there had been problems with their mouse and therefore they could not use Windows 3.1 very effectively. Two others mentioned a problem with their modem as being the source of their frustration. For the remainder of the respondents, one said that their printer did not function properly, and the other respondent had problems connecting to the Prodigy service.

Question 2: Which computer programs did you use most often?

Fifteen New Trier parents indicated that the software program they used most often was some word processor such as Microsoft Works or WordPerfect. Parents reported using Prodigy frequently. Other programs mentioned by New Trier parents, although less frequently used, included Quatro Pro, Harvard Graphics, and Linkway. Various computer games such as GUTS and Carmen San Diego rounded out the list of software used.

Question 3: What were you using the computer programs for?

New Trier parents reported their use of computers being equally distributed among writing letters or correspondence, work related activities, for pleasure, and possibly for completing homework assignments given to them. Primary uses of the computer was for Prodigy access to such services as: electronic news, sports reports, weather reports, stock market reports, and various bulletin board services. Only four respondents to the questionnaire did not answer this question.

Question 4: What applications did you use most often while on Prodigy?

Of the parents who responded to this question, six used electronic mail services, five examined the stock market reports, and four scanned the news updates. The use of the electronic encyclopedia, looking at the weather reports, and playing games followed in frequency of occurrence as each activity was reported by three parents. Other

activities in decreasing frequency included the use of bulletin boards, catching up on sports scores, the use of travel services, and the search for miscellaneous information.

Question 5: What were you using these Prodigy applications for?

A large number of New Trier parents (15), indicated that the primary reason they used Prodigy was for their personal pleasure. Six parents said they used Prodigy to either search for information for school assignments, or use the e-mail service to clarify homework. Other less frequent responses included the use of Prodigy for business use, and for a hobby. Six people did not respond to this question.

Question 6: What kinds of things did you do most often when using the school's computer (when you logged on to it)?

Slightly more than half of the respondents to the survey did not answer this question. Of those who responded to this question, the majority said that they did not log on to the school network. A few parents mentioned that their child did. "Our son used the computer two hours a day. My wife and I didn't use it." Of the remaining six parents who did log on, three used the network for e-mail services, two used it for pleasure, and one parent checked out their child's assignments.

Question 7: What were you using the school's computer for (what types of things)?

Almost two-thirds of the parents did not respond to this question. Of the nine parents who did respond, three indicated that they used the network for completing assignments, two said that they used it for pleasure, two mentioned using it for school, one reported using it to communicate with teachers, and one indicated that they used the network for business applications.

Question 8: Please describe one example that you know of where students worked together on a Project Homeroom project. Tell us if you liked or disliked the experience and why.

A large number of respondents to this question did not specify any particular project where students worked together. However, these parents did mention numerous reasons for liking what was happening when students worked together. Those reasons included the infusion of computers into the curriculum, the active group work and participation by the students, the challenging nature of the work, the overall success of the project, and the increased learning that was occurring. Examples that illustrate the feelings of the parents include: "Good experience on team approach to problem solving", and " We liked the experience because it gave our son the opportunity to interact with his peers which was a great growing experience."

Several specific collaborative projects that were mentioned by parents included the final research project and a project on the book Jurassic Park. The project dealing with Jurassic Park was mentioned as being an excellent motivator for the kids. "The

reading of Jurassic Park and studying biology and geography along with English was wonderful. Our son thoroughly enjoyed this book!" Parents mentioned how the final research project helped bring students together. "Their last project on the (Contraceptive Pill RU 486) was a group project. Group projects are great! They accomplish much more than any one single person would do. The interaction is also good." Also of importance is the fact that none of the respondents indicated a dislike for any project. However, two parents did mention that they really weren't aware of a group project occurring at New Trier.

Question 9: Please describe one example that you know of where students learned about a topic from the point of view of several different subject areas. Tell us if you liked or disliked the project and why.

The responses to this question were directly related to the responses from question number eight. Once again the final project and the project on Jurassic Park were indicated as being highly successful activities. Nearly half of the respondents to this question did not point out any particular project where the view of several different subjects areas was included. Instead, they listed several reasons for liking such projects. Four parents indicated that they thought the interdisciplinary projects were challenging. Three parents said that the projects allowed their children to see the relationships between the different subject areas. One example of such a response follows: "I liked the experience very much. It gave [our son] a chance to see how all subject areas relate to each other and how they can be used together." Seven individuals did not respond to the question.

Question 10: Please describe one example where you interacted with a teacher or administrator outside of regular school time. Tell us if you liked interacting with a teacher or administrator outside of school and why.

Eight of the respondents to this survey did not answer this question. Only three respondents said that they did not interact with the teachers or administrators at all. Eleven New Trier parents did say they interacted with teachers and administrators and liked it. The most frequent answer to why they liked it was the opportunity to find out the progress of their child. Five parents cited this as their primary reason for liking the interaction. Three parents said that teachers were able to help them learn how to use the computers more efficiently, while two others said that they were able to check out what the homework was that their child had to do. One parent actually enlisted the help of a teacher in preparing learning resources. The ease with which parents and teachers communicate via e-mail was clearly important. One parent said, "We communicated every so often with various teachers regarding Sarah's class average and homework assignments. It was very helpful to be able to communicate via the computer rather than calling them at school." Another parent went so far as to say that without e-mail, communication would never have been initiated. "We find [the use of] e-mail more comfortable to do because we would never have called the teacher on the phone." Slightly on the negative side was the fact that one parent felt that a teacher was taking

too long to respond to their messages. "We had many contacts with teachers outside of school. We waited several days for a reply. We would have liked a quicker response."

Question 11: What advice could you give to a parent in a school that was considering putting in their own version of Project Homeroom to insure that it would be a success?

New Trier parents suggested a number of things that might insure a similar project's success in a different school. The two most frequently occurring pieces of advice that came from parents were the need to involve both the parents and students, and the need for parents to understand and use the equipment as efficiently as their children. Less frequently cited but of equal importance was a suggestion that the equipment given to the families not be placed in their children's bedrooms (because it is not as easily accessible to the parents). "Make sure the computer is in an area that is centrally located. It is a great experience for the entire family." Three parents did not give any advice, but did say that Project Homeroom was a meaningful experience. Other pieces of advice that parents mentioned included: 1) keep in contact with the teachers; 2) reinforce your student for the things they accomplish; and 3) communicate through the computer.

Question 12: What have you liked least about Project Homeroom this year?

Nearly half of the respondents to the survey did not answer this question. Of those who did respond, just about everyone had a different answer. Three parents did say that they felt distant from the program. "I have not been sure from the beginning as to how active I was to be in the process. Aside from some periodic geography trivia questions ..., my son and I did not do any joint projects. I am not sure we were supposed to be doing so." Other responses included: 1) the class work is busy work; 2) the arrangement of classes was inefficient; 3) the program wasn't available throughout the school; 4) the decline of grades; 5) the loss of the computer at the completion of the project; and 6) the inefficient use of the computers.

Question 13: What have you liked most about Project Homeroom this year?

The most frequent response to this question was the fact that the students learned a lot about computers and technology. Eight parents indicated this as the most liked aspect of Project Homeroom. Three parents said they enjoyed how students and teachers were working together. Three others said the teachers at New Trier were excellent and caring. Two parents mentioned that their children were more motivated towards school. Other liked aspects that were less frequently mentioned included the interdisciplinary approach, group work, the availability of information, the uniqueness of the learning opportunity, and the fact that parents were able to be more in touch with their child's educations.

Question 14: Given the choice, would you continue with Project Homeroom next year?

Nearly half of the parents did not respond to this question. Of those that did respond, only two indicated that they would not want the program to continue. Interestingly enough, the reason cited was the fact that one year in the program was not enough. Thirteen parents wanted the program to continue. Three said it was a valuable experience. Three said they liked the interdisciplinary projects. One parent said it was fun and made the children think. "Interactive learning and an interdisciplinary approach to learning make it more fun and challenging and exciting for the students. I feel that more than ever they were able to do a lot of thinking with this program, not just memorizing."

Question 15: Additional comments

Two-thirds of the respondents chose not to add any comments to their answers on the questionnaire. However, three New Trier parents did say that the program should have provided the students with more basic computer skills. Positive comments included the wish to have the program continued and gratitude for having been involved in the project. One parent grieved at the loss of the computer. "The whole family went into withdrawal when the computer was returned to New Trier. A computer search has begun and it will be our next purchase. It amazed me to see young children who cannot read yet go into DOS and find games." Another parent indicated how Project Homeroom had changed her daughter. "I think this program has been a great program and I would like to see it continue. I think it has improved my daughter's learning ability, given her a feeling of great accomplishment, and she received very good grades."

Summary

All in all, Project Homeroom at New Trier High School during the 1992-93 school year progressed a great deal from the previous year. The teachers were more confident in their ability with the technology and with where they were going with the curriculum. Though problems still arose with both the technology and the curriculum, the problems were often ones these teachers had dealt with before and were more effective in helping the students deal with this year. Furthermore, the teachers' familiarity with the curriculum and technology gave them added time to refine interdisciplinary projects.

Less time was spent learning how use the technology in a specific class or how to bring to subjects together in a joint lesson. Instead, the time was spent asking why the technology should be included in a particular lesson and/or why certain subjects should be brought together for specific parts of the curriculum. In the end the teachers and students involved in Project Homeroom at New Trier have come away much more knowledgeable and much wiser for their efforts.

Amos Alonzo Stagg High School

School observations

The research team from the Technological Innovations in Educational Research laboratory visited Amos Alonzo Stagg High School a total of five times over the past school year, during which we observed four teacher meetings, conducted two interviews with teachers, and observed seven classes. Two visits occurred in October. For the rest of the semester, a member of the research team and a member of the school team maintained contact through Prodigy. The researchers made many requests for times to come to the school and observe. Unfortunately, the Project Homeroom school team was unable to give the researchers any dates to visit during the first semester.

Our first site visit to Amos Alonzo Stagg High School took place on 10/22/93. The english and social studies teachers engaged in a mock debate as an example for the students who would be engaging in their own debates the following week. This exercise was meant as an introduction to formal debate style. Prior to beginning the mock debate, the students were given the opportunity to ask questions as to how the teachers prepared for their debate and how they went about constructing their arguments. The teachers then engaged in the mock debate, going through two iterations of argument and rebuttal with both sides then giving their closing arguments.

The second visit took place the following week (10/28/92) when the students were engaged in their own debates. Both sets of debates took place in a large lecture hall with Project Homeroom staff and roughly half of the students in attendance during two sessions. The students chose interesting topics and dutifully argued through them. The student debates continued from 10/28 through 11/6/93.

Project Homeroom at Amos Alonzo Stagg high school presented a challenge to the TIER lab researchers, in that the Stagg staff made it clear from the initial teachers' meeting that they had some serious trouble with Project Homeroom. They felt that the classes chosen to take part in the project did not work well together – specifically, they felt that while it was possible for english and social studies to make interdisciplinary connections, and to make relevant use of the technology afforded them through the project, the beginning german class simply did not fit in. The teacher felt that the skill level of the students was too minimal for them to truly benefit from working in aspects of the other classes. She felt that students needed the time in class to become more fluent in German, and to develop their grammar and vocabulary skills. In addition, the decision had been made earlier that the foreign language classes would be language acquisition based, rather than cultural acquisition based. She suffered frustrations in that the software dealing with german did not come to the school from the corporation (IBM). Nonetheless, at least one interdisciplinary unit worked in the german class. The teacher also helped throughout by assisting in classroom supervision.

Most of the planning for the second year occurred during the year, as it seemed to have in the first year of the project. Notes from teachers relate that on 11/4/92, vague

ideas of how to integrate english and social studies were being discussed. Clearly, though, some advanced planning had already occurred in which the teachers decided on some interdisciplinary studies. The two teachers had planned a cooperative unit in which the students were to learn the skills involved in debate, and use those skills to present a debate on an issue relating to current events or civics.

Since the research team had little guidance from the school in deciding when to visit, and given the limited resources available for the evaluation effort, researchers were forced into a position of having to rely on the teacher's own interpretations of what was happening at Stagg high school. Needless to say, evaluation under such circumstances is quite difficult. People involved in a process tend to have a much different view of what is going on than an outsider might have.

This year, according to the reports of our teacher contact, the administrator was highly involved in helping the team develop their themes. He helped develop, and was involved in the implementation of, one unit which developed the central theme of Power. He also was heavily involved in the next unit of study, the theme of which was Justice.

On January 19,1993, we saw the administrator introduce the Justice segment of what seemed to be a thematically based unit. He made reference to the unit of Power, which the students had evidently just finished, and also referred to the fact that the german teacher would have a large part in this unit. After brainstorming with the students about words related to the concept of Justice, the administrator showed a clip of The Godfather relating to a scene shown in the Power unit. He asked the students to watch it, bearing in mind how it related to the issue of justice. In the scene, a father begs the Godfather to avenge the beating of his daughter, and the Godfather points out that the petitioner has avoided his family until now he needs a favor. He agrees to avenge the beating, but not with the deaths of the perpetrators. Another clip shows a slow but vicious assassin pledging his devotion to the Godfather's daughter. In yet another scene, the assassin is brutally murdered.

The administrator then asked what the student's thoughts were about how justice was carried out in the movie. Students gave one word answers describing what they had seen. One student gave a longer answer, and the administrator then explained more about what had been seen in the movie and how the clips fit into the rest of the movie. He continued that the real point was that there were different kinds of justice, and that some were beneficial and some were detrimental. He seemed to realize that he was doing too much explaining, and said that he was doing what the students should be doing. He turned to the blackboard, on which was posted a Justice wheel dealing with basic ideas related to justice. Students were then charged with meeting with groups to develop a three questions during the class period which met a list of criteria posted on the board. He explained the criteria for working in cooperative groups, then elicited one word responses describing what a person looks and acts like when engaged in reflective listening.

Students broke into groups to develop their questions, and all of the Homeroom teachers mingled with the students, monitoring their work and answering questions as necessary. They also helped refine questions to fit the criteria listed. The class was noisy, and some students seemed actively involved in the task at hand. Others did a brief, cursory job of creating questions, then socialized among themselves and with other groups around them.

The same day in the german teacher's class, the teacher explained that they would not be having german for the next five days, but instead that she would be dealing with "a little bit of justice, then we're going to be moving into [the economics teacher's class], and we're going to be doing that with a historical perspective." She had students get out a notebook she had asked them to bring to class. Students who had forgotten them went to get them from their lockers, then the teacher started a lecture about how the government related to justice, and the history of our form of government dating back to the Field of Runymead. Students busily took notes relating to how justice was meted out in other countries, and at various times, in history.

Students participated in relating other types of government and what they knew about them. Their comments formed the basis for other lines of lecture for the teacher. The forms of government were classified into three forms: the monarchy; the democracy; and the republic. Students worked in groups to characterize the advantages and disadvantages of the three forms of government. The teacher explained to students the jobs they were to do in their cooperative groups, then had them get to work. They had ten minutes to complete the task. The teacher walked around asking students to clarify their thoughts and getting groups settled to the task. The themes of the two classes represented an interesting intertwining of the energies of the teachers.

In the first week of February, Stagg informed the research team that the project was definitely not continuing in 1993-1994. Our Stagg teacher contact asked that we visit again during the fourth quarter. Mention was made of a draft schedule for the rest of the semester, however the research team never received a copy of this schedule in order to plan future visits. No visits were conducted in February due to class time being devoted to preparing the students for IGAP testing at Stagg. The researchers and staff could not agree on another visit date until the end of March.

Lines of communication between the school and the research team became crossed, and messages sent via Prodigy by the research team to the Stagg teachers of a visit scheduled for March 27th apparently were not received. Upon our arrival that day we filmed the morning teachers' meeting and conducted an interview with the Social Studies teacher. The morning meeting was filled with uncertainty as to the final form of the end of the fourth quarter project. The schedule for the rest of the semester mentioned in January was still in draft form and changed again while we were there. When asked for a copy of the schedule, the team was told they would receive the final version. We never did receive it. Classroom observations on 3/27/93 were not conducted at the request of the Stagg teachers. They did not expect us that day and assured us that we wouldn't see anything unique or innovative.

From March 1st, 1993 on, no Prodigy contact was received from Stagg. No visits at all were scheduled in April, and finally a visit was scheduled for May 14th. On that day, the ISU team arrived for the morning meeting, filmed it, and observed classes. The morning meeting was dominated by discussions of the format for the reports the staff had to generate for the corporate partners. No real discussions of current activities with students occurred. It was a mostly administrative, end of the program type of discussion.

The fall semester was filled with much confusion as to curricular goals. The team suffered their second change in administration since the conception of Project Homeroom, and they were under pressure from their board and the corporate partners to produce outcomes of the project that were not necessarily measurable in the terms that staff wanted to deal in. However, according to the communication through Prodigy, exciting things did happen during the year. Unfortunately the research team almost never heard about these things until after the fact or with only a few days notice, less than the time necessary to organize and conduct a site visit.

In the classes that the research team did observe we invariably saw the same solid instruction that has made Amos Alonzo Stagg high school a leader. We often saw students working in microcomputer labs using word processors. Although teacher lecture was a common activity, we often saw students working in cooperative groups to deal with problems specific to the class they were in and to the topic that day. All of the techniques used by the Stagg staff are good, and have all been well documented for their effectiveness. The were not, however, unique to Project Homeroom.

Reported use of, and comfort with, the computer

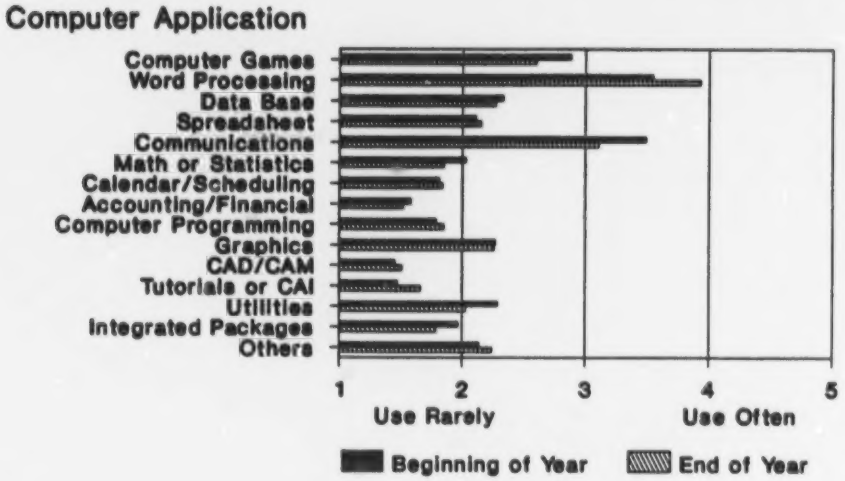
Students and parents were asked, once near the beginning and then again at the end of the school year, to describe their utilization of their computer. Questions focused on 15 separate computer applications, asking for reports of both the relative amount of use and comfort in that use. All questions were on a five-point semantic differential scale type, ranging from a score of 1 meaning "used rarely" and "uncomfortable with using" to a score of 5 meaning "used often" and "very comfortable with using". These data were collected and analyzed using a before-then-after t-test. This analysis was designed to ascertain if a statistically significant change had occurred from the beginning to the end of the year in either use or comfort level in any of the 15 computer application areas. A side-by-side bar graph displaying this information is presented on the following page.

Students at Amos Alonzo Stagg High School reported using word processing applications the most. Telecommunications were the second most frequent use, with computer games, data base, graphics, and spreadsheets following. Least frequently used were Computer Aided Design (CAD)/Computer Aided Manufacturing (CAM), tutorial/Computer Assisted Instruction (CAI), and accounting/financial applications. Although the use of word processing increased from the beginning to the end of the year, none of the 15 computer applications showed a statistically significant increase in use during this time (at $p < .05$). Students also reported being the most comfortable

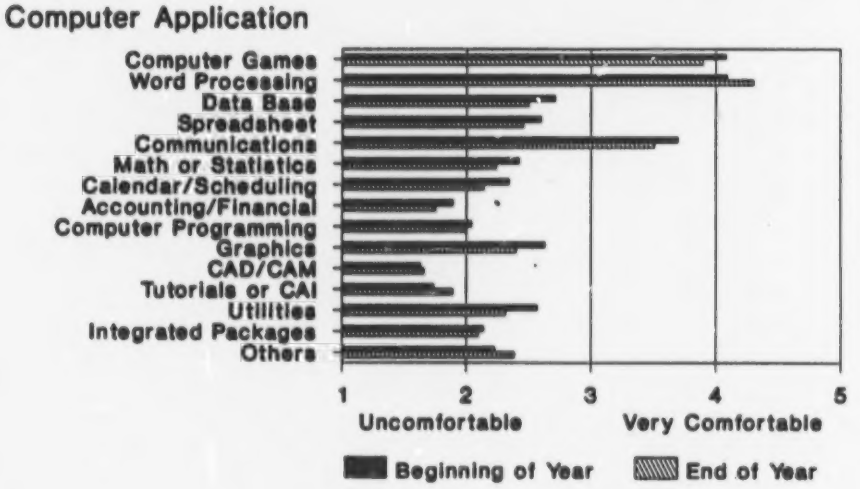
with word processing, computer games, and communications applications while being the least comfortable with CAD/CAM and tutorials/CAI. As with the reports of computer use, no statistically significant changes were reported in the comfort levels of computer use.

Parents of the Amos Alonzo Stagg students also reported using word processing the most, followed by communications and data base applications. Over the course of the year these parents increased their use of the computer in all areas except for calendar/scheduling programs, CAD/CAM, utilities, and other software. None of the reported increases were, however, large enough to be considered statistically significant (at $p < .05$). Reported comfort with the computer generally followed reported use, with parents most comfortable with word processing and communications tasks. Comfort with computer games was also quite high. Parent reported being the least comfortable with CAD/CAM, computer programming, and graphics applications. Except for CAD/CAM, utilities, and other software reported comfort levels rose over the course of the year. The amount of this reported increase, though, was not large enough to be considered statistically significant.

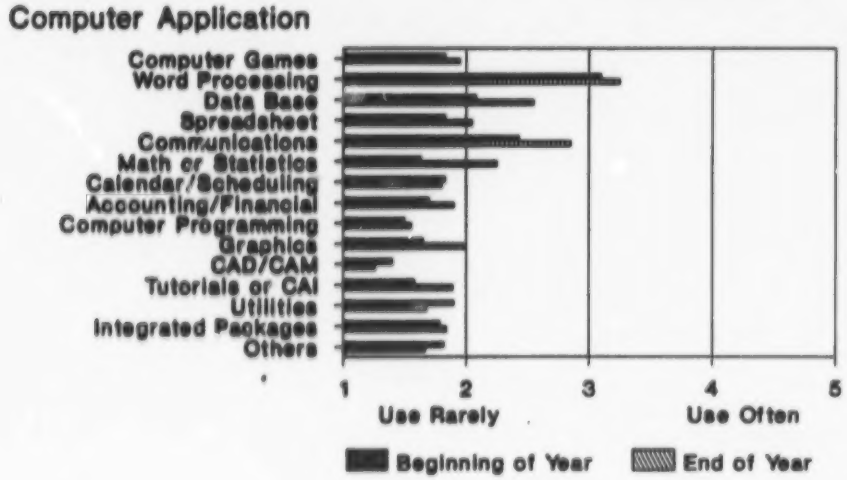
Amos Alonzo Stagg High School
Student Reported Use of Computer



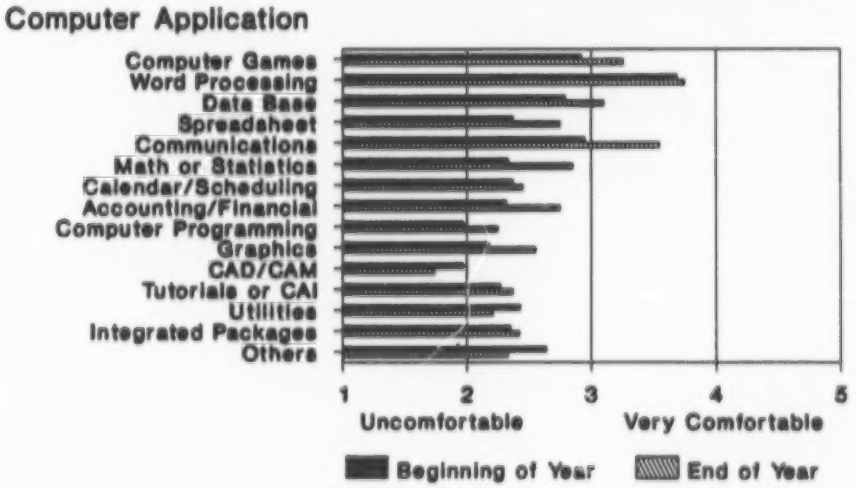
Amos Alonzo Stagg High School
Student Reported Comfort with Computer



Amos Alonzo Stagg High School
Parent Reported Use of Computer



Amos Alonzo Stagg High School
Parent Reported Comfort with Computer



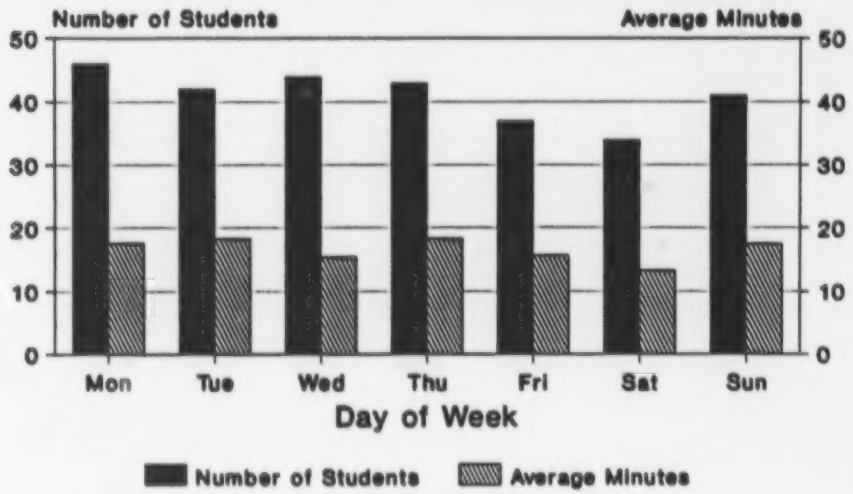
Reported time in telecommunications activities

As part of the final written survey, participating students and their parents were asked to indicate the amount of time they used the computer for telecommunications activities during a typical week. Parents and students related the number of minutes each day they spent using both the Prodigy service and their school's local area network. The number of respondents who indicated spending at least some time in either activity was totaled, and an average computed for the number of minutes typically spent each day. A bar graph displaying this information is presented on the following page.

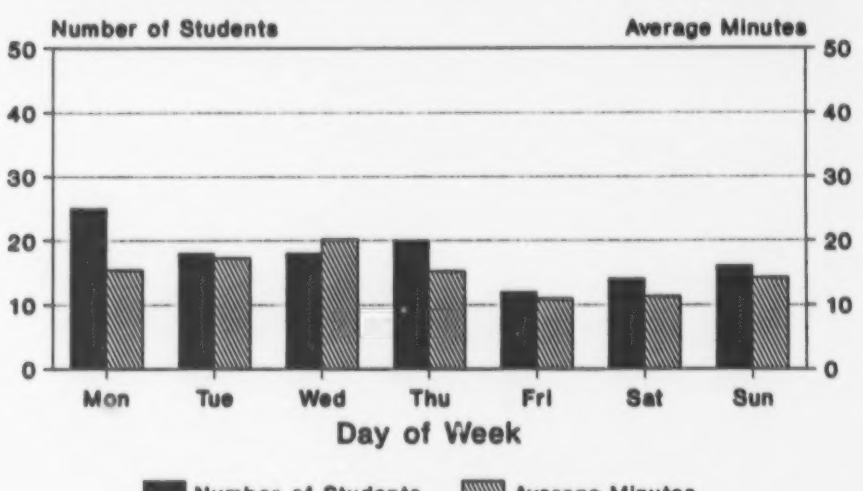
An average of 41 Amos Alonzo Stagg students reported spending at least some time each week using Prodigy, while only an average of 18 reported spending some time connected to the school's local area network. On average, more time was spent in telecommunications activities on Monday than any other day of the week. Students also reported spending less time using both Prodigy and the school network on Friday and Saturday than during other days when usage was fairly stable. More students reported spending a larger amount of time, from five to ten minutes on average, using Prodigy than using the school's network. No statistically significant differences were found in the number of students using the two services on any given day of the week. Likewise, no statistically significant differences occurred in the amount of time spent on either of the two services on any given day of the week.

An average of nine Amos Alonzo Stagg parents reported spending at least some time each week using Prodigy, while only an average of three reported spending some time connected to the school's local area network. On average parents reported spending more time using the both the Prodigy service and the school's network on weekdays than on weekends, with Monday being the most popular day for connecting. These data clearly show that using the Prodigy service was the more popular telecommunications option exercised by parents, with over twice as many parents utilizing this service for longer periods of time. No statistically significant differences were found in the number of parents using the two services on any given day of the week. Likewise, no statistically significant differences occurred in the amount of time spent on either of the two services on any given day of the week.

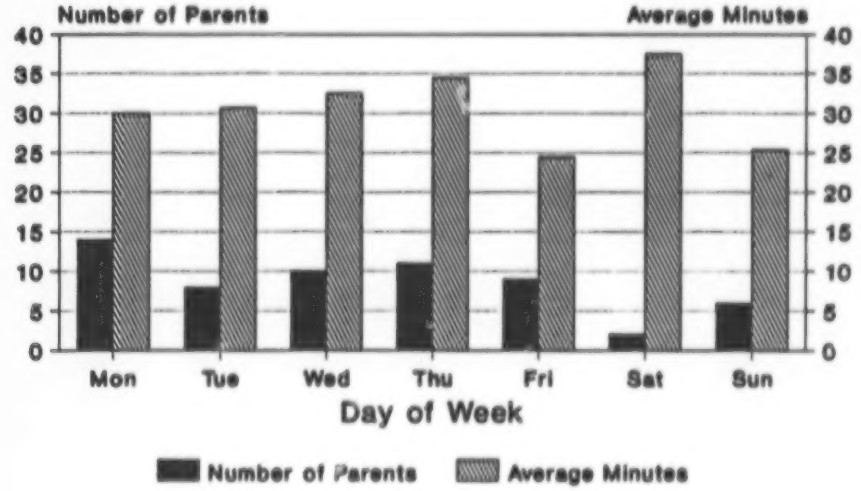
Amos Alonzo Stagg High School
Student Reported Use of Prodigy



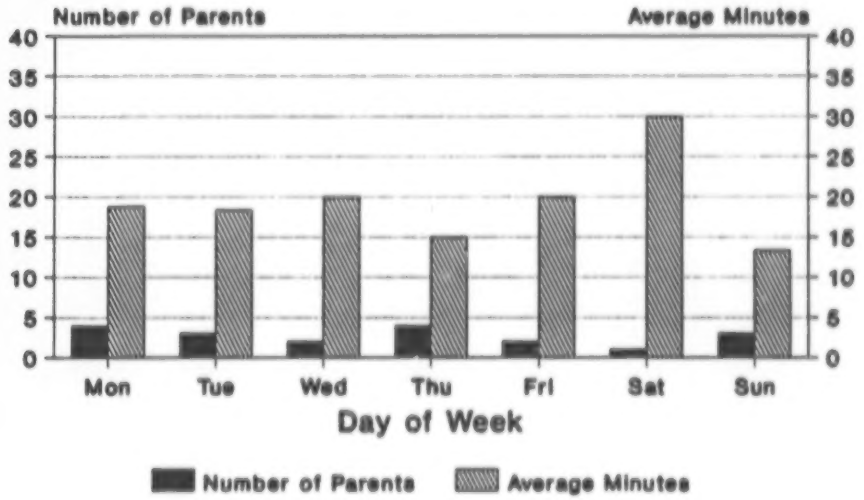
Amos Alonzo Stagg High School
Student Reported Use of School Network



Amos Alonzo Stagg High School
Parent Reported Use of Prodigy



Amos Alonzo Stagg High School
Parent Reported Use of School Network



Reported time in related activities

Several interesting changes took place among Stagg students in their reports of time spent in related activities. In reporting their time use in activities not involving the computer, students reported an increase of time spent doing school work at home of 1.72 %. Interestingly, they reported a similar increase in the amount of time spent relaxing. This score went up 1.76%. Leisure time seemed to be spent in different ways at the end of the program than at the beginning as well. Students spent slightly more time listening to the radio (up .38%) and watching a movie, concert, or play (up .70%). They spent slightly less time watching TV (down .43%). A marked decrease in the time spent participating in sports or exercise occurred over the course of the year. This report fell 1.54%.

When discussing their use of computers, students reported a small jump (up .55%). However, their reported use of Prodigy fell 1.61%. Students also reported slight decreases in the amount of time they spent communicating with a teacher (down .71%), and communicating with a parent. This report fell .87%.

Parents' showed some dramatic restructuring of their time not on the computer. They reported spending 3.7% less time watching TV this year than last. They also reported spending 4.27% less time reading books and magazines. They reported spending more time, however, listening to the radio (up 4.63%). In their use of the computer, parents showed some changes especially in the amount of time they spent communicating with others. According to their reports, they stopped communicating with administrators and parents altogether, communicated less with students (down 1.27%) while slightly increasing their level of communicating with teachers (up .30%). The following table summarizes these data.

Activity	Student Responses		Parent Responses	
	Start	End	Start	End
Activities not involving the computer				
"School" work at home	8.05%	9.77%	2.42%	2.94%
"Employment" work at home	2.40%	2.83%	7.30%	6.31%
Watching television	7.11%	6.68%	18.50%	14.02%
Listening to the radio	7.91%	8.30%	6.35%	10.98%
Listening to records, tapes, or CD's	6.74%	6.72%	3.57%	4.10%
Talking with friends on the telephone	8.45%	7.90%	4.48%	4.48%
Visiting with friends in person	8.34%	9.93%	7.20%	8.32%
Reading pleasure books or magazines	2.80%	3.31%	12.75%	8.48%
Doing a hobby, art or craft	4.36%	3.75%	3.27%	5.18%
Participating in a club or group activity	3.38%	3.72%	2.42%	1.69%
Participating in a sport or exercise	8.05%	6.51%	5.83%	5.25%
Relaxing (doing nothing at all)	5.59%	7.35%	5.38%	5.71%
Watching a movie, a concert, or a play	2.73%	3.43%	4.13%	4.24%
Attending a sporting event	2.23%	1.93%	2.27%	4.63%
Activities using the computer at home				
"School" work using the computer	3.60%	4.15%	1.16%	1.39%
"Employment" work with the computer	.75%	.50%	2.08%	3.83%
Communicating with an Administrator	.57%	.52%	.48%	.00%
Communicating with a Teacher	1.63%	.92%	.92%	1.22%
Communicating with a Parent	2.50%	1.63%	1.26%	.00%
Communicating with a Student	3.17%	3.44%	1.66%	.39%
Using the school's computer network	1.91%	1.30%	.94%	1.01%
Working on Prodigy	4.28%	2.76%	3.79%	2.80%
Playing games or other entertainment	2.47%	2.14%	1.40%	1.94%
Other purposes	.97%	.51%	.42%	1.10%

Attendance

Information on student absences was repeatedly requested from the Amos Alonzo Stagg High School administration. Although provided in the first year of the study this information was not made available to the research team during the second year. No analysis of attendance could, therefore, be performed.

Grades

Course grades for each Project Homeroom student were also obtained, and are summarized in the table below. In the first year of the study the grades of students taking similar, but non-Project Homeroom courses, were also obtained. Comparisons were drawn between the Project Homeroom students and their non-Project Homeroom counterparts. Although repeatedly requested the grades of suitable comparison students were not made available in this second year to the research team for the purpose of comparative analyses. Unfortunately, the unavailability of this comparative data resulted in no grade analyses being performed. This table is presented for information only.

Subject		A	B	C	D	F	P
English	92FS	32.9%	46.6%	19.2%		1.4%	
English	93SS	12.9%	41.4%	31.4%	14.3%		
German	92FS	11.0%	32.9%	27.4%	17.8%	11.0%	
German	93SS	15.7%	35.7%	20.0%	14.3%	14.3%	
Econ/Govt	92FS	42.5%	28.8%	20.5%	8.2%		
Econ/Govt	93SS	31.4%	27.1%	12.9%	17.1%	11.4%	
Other	92FS	16.9%	33.1%	34.2%	12.1%	3.8%	
Other	93SS	15.4%	21.2%	26.3%	10.9%	6.4%	19.9%

Student Survey #3 Themes

Question 1: What computer programs did you use over the summer vacation?

Of the 74 respondents to the questionnaire, 25 Stagg students said that they had not used any computer programs over the summer while five did not reply to the question. Of the 44 students who had used computer programs, 29 indicated that they had used Prodigy the most. Eighteen students said they had used some word processing program such as Microsoft Works or WordPerfect. Fifteen indicated using Microsoft Works, one used WordPerfect, and two did not specify any particular word processing package. Another 14 students said that they had connected to Prodigy mainly to play

on-line computer games. Other software programs mentioned included: Linkway (7), PCBoard (2), DOS (2), Typing Tutor (2), Printshop (2), Telix (2), PC Globe (1), Norton Utilities (1), and Harvard Graphics (1).

Question 2: What did you use the computer programs for?

Fourteen Stagg students did not respond to this question. Thirteen others said that they had not used any computer programs. Of the 47 students who had used computer programs over the summer, 28 indicated having mainly used them to play games, have fun, or for entertainment. Seven students reported having used Prodigy to search for information. Two others reported having used Prodigy to get on different bulletin boards. The use of a word processing program to compose letters and documents was also popular amongst the students (6), as was communication (5). Other uses of computer software included: to send and receive electronic mail (4), for business/work (3), for school related work (2), and as a hobby (1).

Question 3: Did you use Prodigy? If you did, what did you do on Prodigy and about how frequently?

Only five Stagg students said that they had not used Prodigy over the summer, and only one other student did not respond to the question. It was therefore assumed that the remaining 68 Stagg students had used Prodigy in one manner or another. Following is a breakdown of the frequency of use reported by these 68 students:

Used once a week	8 students
Used twice a week	7 students
Used every day	6 students
Used three times a week	3 students
Used four hours a week	3 students
Used five times a week	2 students
Used every other day	1 student
Used three to five times	1 student
Used two hours	1 student
Used ten times a week	1 student

Thirteen Stagg students said that the main activity they engaged in playing on-line electronic games such as GUTS and Carmen San Diego. Twelve other Stagg students said that they used the electronic mail services. Other Prodigy services student reported using included: checking sports scores (9), reading electronic news and weather reports (11), using the electronic encyclopedia (4), writing letters (6), browsing bulletin board information (4), reading horoscopes (4), joining discussion groups (3), and shopping (2).

Question 4: During the summer, did you talk with (or exchange electronic mail with) other students about Project Homeroom?

Of the 74 respondents to the survey, seven did not give an answer to the question and 49 students said they had not used electronic mail to talk with other Homeroom students. However, 18 students did say they had used electronic mail. Of those 18 students, eight mentioned that they had talked about how hard the upcoming year of Project Homeroom was going to be. Another three students said they basically talked about the previous year in the project. Other topics of conversation reported were: personal information (6), discussions on how to set up a bulletin board (1), and the upcoming trip to Germany (1).

Question 5: During the summer, did you talk with (or exchange electronic mail with) any of your Project Homeroom teachers?

Of the 74 respondents to the survey, 64 Stagg students said they had not used electronic mail or any other means of communication to talk with their Project Homeroom teachers over the summer. Only two students did not respond to the question. Eight Stagg students said they had communicated with one or more of their Homeroom teachers over the summer. Six said they had talked with teachers through electronic mail, while the other two said that they had communicated with them but only one time.

Question 6: What do you think Project Homeroom will be this year?

Thirty-two Stagg students reported that they believed that the project would be exactly the same as it was the previous year, or a continuation from the previous year. Twenty-two students indicated that they thought the program would be better than the previous year, more fun, helpful to education, more organized, and would include more use of the computers in the classroom. Twelve students had a feeling that the project was going to be more work than it had been because of the organization and experience from the previous year. A few students had comments such as "it will be boring", and "it is dumb." Only two Stagg students did not respond to the question.

Question 7: What are you not looking forward to in Project Homeroom this coming year?

Every Stagg student had a reply to this question. It was not surprising that 27 of them said that they were not looking forward to the homework. Closely related to comments about the homework were comments associated with the upcoming speeches and big projects. Each of these activities were reported by 11 students as being a negative aspect of the upcoming year. Six students did not like the prospect of having to do written reports, and another four students had a fear of failing tests. Teachers seemed to be another source of discomfort among some students as seven indicated that they were not looking forward to one, more than one, or all of the Project Homeroom instructors. Certain classes were listed by 10 students as being a negative aspect of the

program. Seven students were not looking forward to Economics, two disliked Government, and one was afraid of German. Rounding out the list of negative aspects of Project Homeroom were: the year ending (2), computer and other technical problems (2), having the same teachers (1), and everything (1).

Question 8: What are you looking forward to in Project Homeroom this coming year?

Twenty-one Stagg students said that they looked forward to field trips the most. Of particular interest was the german class where five other students indicated that the trip to Germany was excellent. Ten Stagg students said that they thought that they would have fun in Project Homeroom. Others (18) anticipated learning more about computers since the network would be working. Five Stagg students were excited by the prospect of having such wonderful teachers. Other anticipated aspects of Project Homeroom included: Project Igloo (5), debates (4), the stock market game (3), classes in general (2), and seeing their grades whenever they wanted to (2).

Parent Survey #3 Themes

Question 1: What computer programs did you use over the summer vacation?

Of the 42 respondents to this survey, 11 did not give an answer to this question. Twelve other Stagg parents reported that they had not used the computer at all over the summer vacation. Of those parents who had used the computer, 13 of them reported having used Prodigy most. Another 10 parents said that they had used some word processing package such as Microsoft Works or WordPerfect. Parents also mentioned the data base capability of Works, while another expressed a preference for Lotus 1-2-3. Other computer programs reported as having been used included: Printshop (2), Linkway (2), Harvard Graphics (1), Typing Tutor (1), and Managing Your Money (1).

Question 2: What did you use the computer programs for?

Eighteen parents did not respond to this question. Five other parents said that they had not used the computer at all. These 23 individuals made up over half of the total respondents to the survey. Since some parents listed more than one use of the computer programs, the number of parents for each response may not add up to the total number of respondents for the question.

Of those parents who did use the computer over the summer, eight reported that they mainly had used their computer programs for finding information over Prodigy. Nine other parents reported having used Prodigy for either playing games, reading the news, sending and receiving electronic mail, or using the electronic encyclopedia. Four parents said that they had used the computer programs mainly for work related activities. Finally, one parent mentioned having used Printshop, but did not relate any specific activities that it had been used for.

Question 3: Did you use Prodigy? If you did, what did you do on Prodigy and about how frequently?

Twenty-two parents said that they had used Prodigy over the summer. Twelve parents said they had not used it at all. Eight parents did not respond to the question. Of those who had used Prodigy, four indicated that they had used it three times per week, three indicated they had used it two times per week, four indicated that they had used it only once a week for about two to three hours, and one parent said they had only used Prodigy once all summer. The remaining Prodigy users did not give an answer to the amount of time spent on it.

Thirty-six parents responded to this portion of the question, reporting a variety of uses of Prodigy. The most frequent response to the question was, "I used Prodigy for its electronic mail services." Seven parents gave this answer. Six parents said that they used Prodigy for checking the weather. Other uses of Prodigy that were reported by the Stagg parents include: check the stock market (4), read the news (4), check out sports scores (3), use the encyclopedia (2), shop (2), read movie and film reviews (2) search for information (2) play games (2), and find recipes (2).

Question 4: During the summer, did you talk with (or exchange electronic mail with) other students about Project Homeroom?

Of the 42 respondents to the survey, 11 did not give any answer to the question, and the remaining 31 parents said either that they had not used electronic mail to talk with Project Homeroom students or that the question was not applicable to them.

Question 5: During the summer, did you talk with (or exchange electronic mail with) any of your Project Homeroom teachers?

Of the 42 respondents to the survey, 10 chose not to give an answer to this question. Twenty-six other parents said that they had not communicated in any manner with any of the Project Homeroom teachers. The remaining six Stagg parents said that they had communicated with the teachers with one saying specifically that the reason for the discussion was to talk about a trip to Germany.

Question 6: What do you think Project Homeroom will be this year?

Eighteen Stagg parents reported that they believed that the project would be exactly the same as it was the previous year. Three parents indicated that they hoped the program would be better than last year. Only one parent said that they thought the program would get worse. A large number of parents (12) said that they thought the project would entail more use of computers in classrooms and thus provide an excellent learning experience. For example, one parent said, "I am looking forward to the students becoming more expert in their use of the computer and learning different programs. I think it will be very beneficial to the kids involved." Other perceptions of the project included: more communication between parents, teachers, and students (3), better

grades for the students (2), and students working more as a team (1). One parent indicated that the success of the program depended on the effort of those involved. This parent said, "Project Homeroom will be whatever the administrators decide it will be." Eight parents did not respond to the question.

Question 7: What are you not looking forward to in Project Homeroom this coming year?

Seventeen Stagg parents did not respond to this question. Ten parents stated that they had no negative feelings towards Project Homeroom, including one who said, "I am looking forward to another good year. I have no negative feelings." Of those who did have negative feelings, six said that the high phone bills were of particular frustration to them. "We are not looking forward to the expensive phone bills which we seem to have no control of and which seem to be unfair and for which the telephone company refuses to explain." Other complaints included: child complaining of too much homework (2), the evening meetings (2), field trips (2), having to talk with teachers (1), the end of the program (1), and speeches (1).

Question 8: What are you looking forward to in Project Homeroom this coming year?

Eighteen Stagg parents said that the most anticipated aspect of Project Homeroom for the coming year was their children learning more about computers, networking, Prodigy, and software. Four other parents indicated that they looked forward to the increased communication between themselves, the teachers, and the students. Other anticipated aspects of Project Homeroom included: success for the students (3), the enthusiasm and innovation of the projects (2), the classes (1), the continuation of the project (1), and lower phone bills.

Student Survey #4 Themes

Question 1: Have there been any technical problems with your computer equipment? If yes, please describe what the problem was.

Of the 63 students who responded to this survey, 31 did not answer this question. The most common problems among those who answered occurred with Prodigy. Twenty-five students cited Prodigy problems. The printer caused problems for eight students. Six complained that they could not log in to the school, and four said that their modem didn't work.

Question 2: Which computer programs did you use most often?

Forty-one Stagg students said that they used Works most often. Twenty-five said that Prodigy was the most commonly used program. Other programs cited include Linkway (3) Games (2), and Printshop (2). Several students responded by giving a type of program: 12 said that they used programs to do reports and word processing, and three said they did homework.

Question 3: What were you using the computer programs for?

A majority of the students responding said that they used the computer programs to do homework. Forty-eight students answered in this way. Twenty-one said they used the applications for pleasure, and another twelve said they used the programs for a hobby. One used the programs for information. Only one student did not respond to this question.

Question 4: What applications did you use most often while on Prodigy?

Students used a wide variety of the available programs on Prodigy. Some used Prodigy as primarily an information gathering tool, while others used Prodigy for entertainment purposes. Some of course did both. Information gathering applications formed the most frequently used programs on Prodigy. The encyclopedia was the most popular, as twenty five students used this capability. Seventeen students used the sports headlines capability most often. After that, programs most frequently used were entertainment oriented, such as horoscopes (12) and games (10). Ten students considered mail their most frequently used application. Bulletin boards and news were used most frequently by nine students. Other programs listed included Soaps (6), weather (5), writing (4), Guts, (3). and the stock market (3).

Question 5: What were you using these Prodigy applications for?

Forty-eight students said that most often they used Prodigy for school or school assignments. They also found pleasure in using Prodigy, with 43 respondents stating that this was their most frequent use.

Question 6: What kinds of things did you do most often when using the school's computer (when you logged on to it)?

Thirteen students said that they had not logged onto the school computer. "I did not log on. There was nothing to do," said one student. Another said, "I was unable to log in. Even if I was able to they never gave us an assignment that made us do that." Of those who did log on, 16 said that most often they were doing homework. Thirteen mentioned exchanging files, while 10 typed reports and papers.

Question 7: What were you using the school's computer for (what types of things)?

Fifty-one students stated that their primary use of the school's computer was for school assignments or school related work. None of these students elaborated on what they meant by school assignments. Fourteen said they used the computer for pleasure or for a hobby. Again, no further details were available from the surveys. Six students did not respond to the question, and six said that they did not use the school's computer.

Question 8: Please describe one example that you know of where students worked together on a Project Homeroom project. Tell us if you liked or disliked the experience and why.

The debate project was the one most frequently mentioned by students. Sixteen students mentioned enjoying working in groups in that project. One said, "...it was great because we can split up the work. It's allot (sic) easier, you can get more work done. That's what I like about working in groups." Another student noted that the problem of having a partner who did little was alleviated during the debate unit, because, "Each of us was responsible for ourselves, not just our group." Another said, "...we had to work collaboratively to get [the debate] done because it was a team effort. It worked out well."

Many mentioned that during group projects they felt that they had to shoulder an unfair portion of the burden. Typical was this comment: "I really didn't like it because I felt the person I worked with didn't help," or "We have group work. It [is] usually O.K. but sometimes you'd get someone who doesn't want to work with you and it's aggravating." One student related the following tale: "One project was we had a partner we were given in class. The assignment was each had to take a side for strict or liberal interpretation of the constitution. We had to transfer files to each other over the computer. My first partner was asleep when I tried to do it. My second partner and I were on the phone for two hours with the Tech. Director trying to get it to work. I did not enjoy the assignment at all." Other students enjoyed their German class, and the fact that they worked in groups within the class.

Question 9: Please describe one example where you learned about a topic from the point of view of several different subject areas. Tell us if you liked or disliked the project and why.

Students' feelings about interdisciplinary work was mixed. One student said, "We never really put german, english and social studies together. But if we had a paper we would work on it in english and government." Another student said, "I liked working on reports that collaborated the three classes together. I feel it gave my writing a lot of dimension. I hope that if they do this program again this aspect will be included." Some students mentioned liking the trip to Germany for german and history classes.

Many students described a unit dealing with the time period of World War II. One student described a unit in which "Our german teacher taught US History from a german point of view. english read a book on power. Had a project on Hitler." The student went on to say, "I liked it. It kept our mind on one idea." Another student described the same unit, saying," We discussed Hitler through social studies, german and english. I liked it because we learned alot (sic) and applied it to all three classes." Yet another said, "The Holocaust was an example were everyone learned something. Everyone shared information about things they knew about and it all combined into so many new ideas. It was a good experience. You had to use your head."

Some students understood the unit to be interdisciplinary. Others described what seemed to be the same unit as one that took place in german class, or in english class. This may have reflected observations of the teachers early in the year, when they questioned the appropriateness of tying all three subject areas together. German at that time seemed difficult to fit in for the teachers. This ambivalence may have been picked up by students. In fact, one student observed, "We do that [combining courses] with all our speeches. [T]hey try to combine everything and german always gets in the way." Clearly, though, there were some students who felt they had a beneficial experience.

Eighteen students had something positive to say about the interdisciplinary studies that occurred during the year. Some comments were non-specific, with the student writing that he or she liked the unit, but not giving a reason why. Eight mentioned academic advantages: they learned a lot, their learning took on new dimensions, or they felt challenged. Twelve mentioned negative aspects of the interdisciplinary studies: Some said that the work was too hard; others had non-specific complaints – they just didn't like it – whatever "it" was.

Question 10: Please describe one example where you interacted with a teacher or administrator outside of regular school time. Tell us if you liked interacting with a teacher or administrator outside of school and why.

Many students were quite positive about their interactions with teachers, with 27 stating that they had received excellent help during the school year. A couple mentioned receiving specific help, such as extensions on papers. One student said, "I liked it because I needed the extra time and I didn't get penalized because I needed help." Of the same teacher a student said, "...helped me understand the purpose [of a paper] more and I got a lot more sources of information, plus a better grade. It was very nice and convenient."

Others mentioned general types of help they received, but were still positive. One student said, "Sometimes interacting with a teacher helped, like if you needed to know what the homework was, or what's going to be on the test." Another student said, "Yes, I do like talking with teachers out of school. When I don't understand something or when I am absent [I] can call and get the info needed." Another student contacted teachers when sick. This student said, "I hated it because they gave me work."

Some students mentioned negative repercussions of communications outside the classroom. One said, " ...my parents always found out my grades and I would get in trouble." It should not be ignored, however, that eleven students stated that they did not interact with teachers outside the classroom. "I had no real like or dislike for the interaction between us outside school because it didn't happen much."

Question 11: What advice could you give to a student in a school that was considering putting in their own version of Project Homeroom to insure that it would be a success?

Students offered several suggestions about how to ensure the project would be a success. Their most frequent comment was that computers should be set up, running, and learned at the beginning of the project. Some suggested care in choosing participants when developing the project. A representative student advised, "make sure that the people involved want to learn and grow because of the program, not just get a computer." Eleven students said, "Don't do it."

Six were positive, saying that participants could expect to learn a lot about computers. However, five said that they were disappointed with the program. Lack of use for computers and difficulties with classes constituted most of the complaints.

Question 12: What have you liked least about Project Homeroom this year?

Twelve students complained of the amount of work, with specific complaints, "I didn't like all the work that the teachers piled on us like they were our only classes." Eight specifically discussed the amount of work at the end of quarters. Seven did not like the speeches.

Question 13: What have you liked most about Project Homeroom this year?

Students enjoyed field trips and hands-on projects involved in Project Homeroom, with 11 mentioning these learning experiences as the thing they liked most. Nine said they liked the computers, and the same number listed meeting new people as the primary benefit of Project Homeroom. In a similar vein, students enjoyed their teachers. Others liked having their own phone lines.

Question 14: Given the choice, would you continue with Project Homeroom next year?

Despite some very positive comments, students seemed to share their teachers' lack of enthusiasm for the Project. Fourteen students said that they would continue with Project Homeroom, with four calling it a good experience. Others liked the idea, and the expectations of the project.

Eight students said that they disliked having the same classes. Six felt that the computers were not used to their fullest potential, and five said that the project was simply unsuccessful. A total of 57 negative comments overall profess the students' feelings toward the project.

Question 15: Additional comments

Fifty two students had no additional comments. Of those who did, four said the program did not work. Two said they liked the program or wished it would continue. One student said s/he would miss the teachers.

Parent Survey #4 Themes

Question 1: Have there been any technical problems with your computer equipment? If yes, please describe what the problem was.

Over half of the respondents to the survey did not answer this question. Of those who did (9 parents), two said that the main technical problem that they had was a broken printer. Four parents also mentioned having trouble with their Prodigy service or phone problems. Of the remaining three parents, one indicated problems with the school network, one had a broken monitor, and one had problems with the computer losing power.

Question 2: Which computer programs did you use most often?

Ten Stagg parents indicated that the software program they used most often was Prodigy. The next most frequently mentioned computer use was the use of a word processing program such as Microsoft Works or WordPerfect. Seven parents said they used Microsoft Works, two said they used WordPerfect, while six other parents mentioned using a word processor but did not specify the program. Other responses to this question included the use of Lotus 1-2-3 and communication software.

Question 3: What were you using the computer programs for?

Stagg parents indicated that the main reasons they used the computer programs were for pleasure and completing school assignments. Six parents said that they used their computer software for playing games while the same number of parents indicated that they used the programs for completing school assignments. Three parents mentioned school as the main use of the computer software, but they did not mention the type of activities they undertook. Other activities following in decreasing numbers of frequency were the use of software for employment searching, reference material, hobby, and general information. Four parents did not respond to the question.

Question 4: What applications did you use most often while on Prodigy?

Of the thirteen Stagg parents that responded to this question, seven said that they used Prodigy for electronic mail services. Four others said they used Prodigy mainly for playing on-line computer games such as Guts and Carmen San Diego. Checking the stock market, weather reports, and news followed in frequency of occurrence as each activity was reported by three parents. Other Prodigy services such as electronic sports

updates, movie reviews, consumer reports, travel guides, and home shopping were mentioned at least once by a parent as being the primary use of their Prodigy services.

Question 5: What were you using these Prodigy applications for?

A large number of Stagg parents (10) indicated that the primary reason they used Prodigy was for their personal pleasure. Five parents said they used Prodigy to either search for information for school assignments, or use the electronic mail service to communicate with teachers about their children's homework assignments. Two Stagg parents indicated that they used their service for various work related activities, while another said that they used Prodigy more as a hobby than anything else.

Question 6: What kinds of things did you do most often when using the school's computer (when you logged on to it)?

Almost half of the parents who responded to the survey did not give an answer to this question. Eight parents said that they had never logged on to the school's computer network. Of the remaining parents who had used the network, all six said they used it mainly for communicating with teachers through electronic mail.

Question 7: What were you using the school's computer for (what types of things)?

Three-fourths of the Stagg parents who responded to the survey did not give an answer to this question. Three said they used the school's computer for checking out the assignments given to their children. One said that they used it as a hobby.

Question 8: Please describe one example that you know of where students worked together on a Project Homeroom project. Tell us if you liked or disliked the experience and why.

A large number of the respondents to this question did not specify any particular project where students worked together. However, these parents liked several aspects of students working together. Reasons given included: it was an excellent way to learn cooperation for the future (3), the topics and projects were unique (1), the students and teachers developed original thoughts (1), and the program allowed for frequent student interaction (1). One parent was upset about the unequal distribution of work between group members. Apparently, some group members did not do their part and yet were given the same amount of credit as other group members.

This theme also ran through the two specific collaborative projects cited. One parent said, "I dislike collaborative work for two reasons. One, people are promoted based upon what they do as individuals. Two, somebody always carries the load for those that do little or nothing in order to save their grades." Another said, "I don't think it was fair to other students when one didn't cooperate, effecting (sic) the whole groups grade. It was hard to catch each person in the group home." However, other parents liked the social studies projects. "[student] worked on a project concerning Great Britain

and its government as compared to the U.S. government. Although it was a social studies based project, other teachers and students were involved. I think [student] learned from the project." One parent felt that group members pushed each other. "The children had to work on specifics of the constitution and amendments. All of the projects involved made the students pull their own weight. If one had laid back the others pushed them to work with the group. It also helped prepare them for a work environment, where not everyone does their share."

Question 9: Please describe one example that you know of where students learned about a topic from the point of view of several different subject areas. Tell us if you liked or disliked the project and why.

One-quarter of the respondents did not answer this question. Of the projects that were cited as being interdisciplinary in nature, one in particular stood out. Seven Stagg parents said that they liked the culminating project. Of those seven parents, four said that having the children do interviews was a valuable experience. For instance, one parent said, "My child had to do interviews and get opinions on specific people. We did this on a past president and learned various points of view. It also helped the children contact an individual they may never have approached." Another parent said, "The culminating activity for the year has been a research project on themes they have been studying in English and Social Sciences. They interviewed an authority, researched, argued their decision publicly. They are learning valuable life skills."

Of the opposite opinion was a parent who was displeased with what was happening. This parent reported, "The students grouped together for various assignments with no clear focus as to why. I did not understand the reasoning for this procedure. It was not well accepted." One other parent had similar feelings. "I only helped [my child] on some of her history. I thought the subject matter had nothing to do with history and the requirements ridiculous."

Question 10: Please describe one example where you interacted with a teacher or administrator outside of regular school time. Tell us if you liked interacting with a teacher or administrator outside of school and why.

None of responses that were given for this question were specific about the type of interaction that occurred between teacher, administrator and parent. However, 16 Stagg parents did say that they enjoyed what interactions they did have with teachers and administrators. Five of these parents said the reason they enjoyed the interactions was because the teachers were so open and willing to tell them about their children. Two parents said that the teachers were especially helpful and caring. Other reasons reported for liking the teacher, administrator, teacher interaction include: the helpfulness of the enrichment activities (2), the importance of the interactions (1), the helpfulness of the teachers in understanding their children better (1), and the clarification on homework assignments.

Only four parents reported not liking the interactions between themselves and teachers and administrators. One parent said that the administrators were not very involved. Another parent said that the parent meetings became nothing more than complaint sessions. This parent was quite upset. "Parent-Teacher open discussions became more of a complaint session due to a non-mandatory parent participation. Had parents been required to participate a different attitude might have prevailed and set the goals at a different level. Most parents couldn't or wouldn't touch the computer or become involved with the project. It was poorly structured and not at all administered properly." Finally, one parent was particularly upset about the level of their expected involvement.

Question 11: What advice could you give to a parent in a school that was considering putting in their own version of Project Homeroom to insure that it would be a success?

Stagg parents suggested a number of things that might insure a similar projects' success in a different school. Five parents said that students need to be taught the basic functions of the computer. Three others mentioned that the parents themselves should be given computer training. One particularly adamant parent said, "A learning session for parents is necessary, I know NOTHING about computers." Two apparently irritated parents indicated that new teachers needed to be brought into the program. Other suggestions parents had were: don't be afraid to use the technology (2), have better technical support (1), get a feeling for the involvement of the administration in the program (1), make sure your child is motivated (1), review the planning activities (1), lease rather than buy the equipment (1), have the kids do their own work, and get the parents more involved in the program (1).

Question 12: What have you liked least about Project Homeroom this year?

Three Stagg parents indicated that they were disappointed at the amount of use that the computers received. Four other parents said that they did not like having to give the computers back at the completion of the project. Two parents indicated a lack of support from the administration. "I feel we have received no support from the administration. Many parents would have liked to [have] been a part of the meeting regarding the future of the program."

Other parents cited outdated, inferior, or impractical equipment as being a major problem. An example of this type of response follows: "The equipment was not practical, in that you could continue with the program for everyday use. The telephone caused to many problems, it was too expensive and needed specific lines and computers." Other aspects of Project Homeroom that parents disliked include: the canceling of the program (2), the use of the computers for playing games rather than for learning (1), the lack of communication from the teachers (1), the use of cooperative learning in the project (1), the lack of interdisciplinary projects and activities (1), an impractical level of expectation from the parents (1), and a learning rate that was too slow.

Question 13: What have you liked most about Project Homeroom this year?

Seven Stagg parents said that the most liked aspect of Project Homeroom was the increased level of comfort in using technology. One parent said, "I have become very comfortable using a computer, as have my husband and other child. It has become a part of family life in our home." Four parents also indicated that the project had allowed their children to have continued success in the learning process. Three parents were pleased with the group work that was being conducted with such as large number of students.

For example, one parent said, "I liked the fact that in a large school, seventy-five children were able to work together for two years." The interdisciplinary nature of the program was cited by three parents as being beneficial to their children. Other less frequently cited responses included: the communication with the teachers (2), the openness and honesty of the teachers (2), the efforts of the teachers (1), the challenging nature of the project (1), and the improvement in their child's grades from the previous year (1).

Question 14: Given the choice, would you continue with Project Homeroom next year?

The responses to this question were equally divided between the continuation of the program and the elimination of the program. Seven Stagg parents indicated that they wanted the program to continue. However, each one had a unique reason. One parent said, "Computers are an important part of just about everyone's life, and it was great to get the teens [interested] in it before they get their jobs." Other reasons included the flexibility in the choice of classes, the excellent rapport between students and teachers, the personal attention given to students by teachers, and the increased learning that was occurring. Two other parents said that they would want the program continue only if certain things were either added or changed. For instance one parent said that they would have loved to have continued the program if different classes were made a part of the program. Another parent said that honors courses needed to be a part of the program.

Nine parents reported that they did not want the program to continue. Numerous answers were given as to why they felt this way. Two parents indicated that the program was of no further use to their children due to the lack of honors courses. Other reasons for not wanting the project to continue included broken promises, the inefficient use of the project's technology, poor software and equipment, inconsistency in the project, the minimal use of research papers and reports, and the confining nature of the project. This last reason was taken to mean that the children were not free to interact with other children that were not in the project.

Question 15: Additional comments

Half of the respondents chose not to add any comments to their answers on the questionnaire. Two parents said that the project teachers were very skilled, and two said

they were very dedicated. Other comments included: there should have been an option to buy the computers (2), the teachers were poorly prepared (1), the program was a disappointment (1), the program was a success (1), and the student used the computer more than the parent (1).

Summary

Ambivalence marked this year at Stagg, among teachers and administrators, as well as among parents and students. While teachers and administrators found excitement in developing new curricular ties among the three classes, they also seemed to feel the frustration of not having a comfortable old curriculum on which to rely. They stretched themselves to meet new challenges of involving students in cooperative learning efforts, and were met with some approval, but also some disapproval as many students and several parents complained that workloads were unequally divided among students. Teachers who are versed in cooperative education, as the teachers at Stagg are, know that equal division of the workload must be constantly taught and reinforced until the students understand what this means and can do it consistently. Teachers knowledgeable about cooperative learning also understand that this learning is an ongoing process which, depending on the students and their prior experiences, can take quite a bit of time to internalize. It is clear, though, that several students felt that they learned more by working in cooperative groups than they would have working independently.

Students' feelings about interdisciplinary work seemed to reflect that this was the first year many of these units were presented. As is typical with new curriculum, there were some rough areas. Student surveys indicate that connections were unclear to many of the students. Some parents joined their students in remarking that the purpose of some of the work seemed unclear. Students also complained that the work seemed "piled on". Students reflected positively on several individual activities within classes, however.

One of the benefits of Project Homeroom that continued from the previous year was the feelings the students had about communicating with their teachers. Although numerical data seemed to suggest that the amount of time spent communicating with teachers decreased, the qualitative textual data acquired on the surveys showed quite clearly that many students were pleased to be able to reach teachers either through e-mail or on the phone. Several students related times when teachers were able to help them through the increased communication. While the positive feelings were by no means spread throughout the class, they were certainly an important benefit to those who received them. It is interesting that no student or parent mentioned any teacher-initiated contact through e-mail or by phone.

Lack of data makes difficult a true understanding of how Project Homeroom succeeded this year, and where it could have improved. Missing grades and attendance scores hampered a significant component of the evaluation. The difficulty in scheduling mutually agreeable site visits meant that reports on what went on this year were based

again on the students' and parents' observations and on one teacher's observations which were received via Prodigy. As this avenue of communication closed down in March, students and parents had by far the most input into the final report prepared by this research team.

Appendices

Project Homeroom Student and Parent Survey #3: Maine and Stagg

Project Homeroom Student Survey #3: New Trier

Project Homeroom Parent Survey #3: New Trier

Project Homeroom Student and Parent Survey #4: All Schools

Project Homeroom Student and Parent Survey #3: Maine and Stagg

Thank you for your continuing participation in Project Homeroom! Your honest responses to this second survey are an important part of the continuing evaluation plan. Your name is printed above so we can follow your responses over the course of the Project; however, please be assured that your individual responses will be kept absolutely confidential.

Please answer the following questions based on how you feel today about working with the technology of Project Homeroom.

How much do you use? Rarely				Often	Application	How comfortable are you using? Hardly				Very
1	2	3	4	5	Computer Games	1	2	3	4	5
1	2	3	4	5	Word Processing	1	2	3	4	5
1	2	3	4	5	Data Base	1	2	3	4	5
1	2	3	4	5	Spreadsheet	1	2	3	4	5
1	2	3	4	5	Communications	1	2	3	4	5
1	2	3	4	5	Math or Statistics	1	2	3	4	5
1	2	3	4	5	Calendar or Scheduling	1	2	3	4	5
1	2	3	4	5	Accounting or Financial	1	2	3	4	5
1	2	3	4	5	Computer Programming	1	2	3	4	5
1	2	3	4	5	Graphics	1	2	3	4	5
1	2	3	4	5	C.A.D. / C.A.M.	1	2	3	4	5
1	2	3	4	5	Tutorials or C.A.I.	1	2	3	4	5
1	2	3	4	5	Utilities	1	2	3	4	5
1	2	3	4	5	Integrated Packages	1	2	3	4	5
1	2	3	4	5	Other: _____	1	2	3	4	5

During a recent typical week, how many hours do you spend on the following activities?

Activities not involving the computer

___ "School" work at home
___ "Employment" work at home
___ Watching Television
___ Listening to the Radio
___ Listening to records, tapes, or CD's
___ Talking with friends on the telephone
___ Visiting with friends in person
___ Reading pleasure books or magazines
___ Doing a hobby, art or craft
___ Participating in a club or group activity
___ Participating in a sport or exercise
___ Relaxing (doing nothing at all)
___ Watching a movie, a concert or a play
___ Attending a sporting event

Activities using the computer at home

___ "School" work using the computer
___ "Employment" work with the computer
___ Communicating with an Administrator
___ Communicating with a Teacher
___ Communicating with a Parent
___ Communicating with a Student
___ Using the school's computer network
___ Working on PRODIGY
___ Playing games or other entertainment
___ Using your computer for other purposes (if any, describe below)

_____
_____
_____

Please continue on the reverse side

Please tell us how you used your computer during summer vacation.

—> **What computer programs did you use?**

—> **What were you using the programs for?**

—> **Did you use Prodigy? If you did, what did you do on Prodigy and about how frequently (number of times each week and for about how long each time)?**

During the summer, did you talk with (or exchange electronic mail with) other students about Project Homeroom? If you did, what kinds of things did you talk about?

During the summer, did you talk with (or exchange electronic mail with) any of your Project Homeroom teachers? If you did, what kinds of things did you talk about?

What do you think Project Homeroom will be this year?

What are you not looking forward to in Project Homeroom this coming year?

What are you looking forward to in Project Homeroom this coming year?

Thank you for your assistance!

Project Homeroom Student Survey #3: New Trier

Thank you for participating in Project Homeroom! Researchers at Illinois State University are working with your school district to evaluate the Project during its two years of operation. Your honest responses to this survey are part of that important evaluation plan. Please be assured that your individual responses will be kept absolutely confidential. Your personal information will be used only to determine how to identify those components of Project Homeroom that work best, and how to improve those components in future years. **Thank you!**

What is your gender? ☐ Female ☐ Male

What year were you born? 19__ __

Do you work in a part-time job? ☐ Yes ☐ No
If Yes, about how many hours each week? _____

How do you usually get to school?
- ☐ Walk
- ☐ Ride a Bike
- ☐ Take the Bus
- ☐ Get a Ride
- ☐ _____

Do you usually?
- ☐ Bring lunch from home
- ☐ Buy your lunch at school
- ☐ Go out for lunch
- ☐ _____

What is your most favorite subject in school? _____

What is your least favorite subject in school? _____

What is the subject you do best in at school? _____

What is the subject you do worst in at school? _____

What are your current plans for when you finish High School?

- ☐ Go to College Major: _____
- ☐ Get a Job Title: _____
- ☐ Enlist in the Military Branch: _____
- ☐ Other (please describe): _____
- ☐ Don't know yet

Please continue on the reverse side

Please mark, for each of the computer applications listed below, how often you have used each application and how comfortable you are with each. Please answer the questions based on your computer knowledge before the start of Project Homeroom.

How much did you use? Rarely				Often	Application	How comfortable were you using? Hardly				Very
1	2	3	4	5	Computer Games	1	2	3	4	5
1	2	3	4	5	Word Processing	1	2	3	4	5
1	2	3	4	5	Data Base	1	2	3	4	5
1	2	3	4	5	Spreadsheet	1	2	3	4	5
1	2	3	4	5	Communications	1	2	3	4	5
1	2	3	4	5	Math or Statistics	1	2	3	4	5
1	2	3	4	5	Calendar or Scheduling	1	2	3	4	5
1	2	3	4	5	Accounting or Financial	1	2	3	4	5
1	2	3	4	5	Computer Programming	1	2	3	4	5
1	2	3	4	5	Graphics	1	2	3	4	5
1	2	3	4	5	C.A.D. / C.A.M.	1	2	3	4	5
1	2	3	4	5	Tutorials or C.A.I.	1	2	3	4	5
1	2	3	4	5	Utilities	1	2	3	4	5
1	2	3	4	5	Integrated Packages	1	2	3	4	5
1	2	3	4	5	Other: _____	1	2	3	4	5

During a typical week, how many hours do you spend on the following activities?

Activities not involving the computer

___ "School" work at home
___ "Employment" work at home
___ Watching Television
___ Listening to the Radio
___ Listening to records, tapes, or CD's
___ Talking with friends on the telephone
___ Visiting with friends in person
___ Reading pleasure books or magazines
___ Doing a hobby, art or craft
___ Participating in a club or group activity
___ Participating in a sport or exercise
___ Relaxing (doing nothing at all)
___ Watching a movie, a concert or a play
___ Attending a sporting event

Activities using the computer at home

___ "School" work using the computer
___ "Employment" work with the computer
___ Communicating with an Administrator
___ Communicating with a Teacher
___ Communicating with a Parent
___ Communicating with a Student
___ Using the school's computer network
___ Working on PRODIGY
___ Playing games or other entertainment
___ Using your computer for other purposes (if any, describe below)

_____
_____
_____

In your own words, what is Project Homeroom?

Why did you decide to participate in Project Homeroom?

Thank you for your assistance!

Project Homeroom Parent Survey #3: New Trier

Thank you for participating in Project Homeroom! Researchers at Illinois State University are working with your school district to evaluate the Project during its two years of operation. Your honest responses to this survey are part of that important evaluation plan. Please be assured that your individual responses will be kept absolutely confidential. Your personal information will be used only to determine how to identify those components of Project Homeroom that work best, and how to improve those components in future years. Please return this survey to the school as soon as possible. **Thank you!**

Parent #1

Your gender: ☐ Female ☐ Male

What year were you born? 19 __ __

Your highest degree earned?
☐ Diploma/GED ☐ Bachelors
☐ Masters ☐ Doctorate
☐ Other: _____

What was your field of study in school?
_____

What is your current occupation?
☐ Executive or Administrative
☐ Professional Specialty
☐ Sales or Sales Support
☐ Technical or Administrative Support
☐ Food or Household Service
☐ Protective Service (Police or Fire)
☐ Farming, Forestry, or Fishing
☐ Precision Production or Repair
☐ Operator, Fabricator, or Laborer
☐ _____

Are you now employed?
☐ Full Time ☐ Not Employed
☐ Part Time ☐ Retired

Parent #2

Your gender: ☐ Female ☐ Male

What year were you born? 19 __ __

Your highest degree earned?
☐ Diploma/GED ☐ Bachelors
☐ Masters ☐ Doctorate
☐ Other: _____

What was your field of study of school?
_____

What is your current occupation?
☐ Executive or Administrative
☐ Professional Specialty
☐ Sales or Sales Support
☐ Technical or Administrative Support
☐ Food or Household Service
☐ Protective Service (Police or Fire)
☐ Farming, Forestry, or Fishing
☐ Precision Production or Repair
☐ Operator, Fabricator, or Laborer
☐ _____

Are you now employed?
☐ Full Time ☐ Not Employed
☐ Part Time ☐ Retired

Are you: ☐ Single ☐ Married ☐ Separated ☐ Divorced ☐ Widowed

Which parent completed this survey? ☐ Parent #1 ☐ Parent #2 ☐ Both Parents together

How many people, including the parent(s) above, live in your household? ____ Persons

Please describe the people in your household (do not include the parent(s) listed above):

Person	Gender	Age	Grade in School or Occupation	Relationship to You
#1	M F	____	_____	_____
#2	M F	____	_____	_____
#3	M F	____	_____	_____
#4	M F	____	_____	_____

About how many miles is it from your home to the Project Homeroom school? ____ Miles

Is it a toll telephone call from your home to the Project Homeroom school? ☐ Yes ☐ No

Please continue on the reverse side

BEST COPY AVAILABLE

Please mark, for each of the computer applications listed below, how often you have used each application and how comfortable you are with each. Please answer the questions based on your computer knowledge before the start of Project Homeroom.

How much did you use? Rarely				Often	Application	How comfortable were you using? Hardly				Very
1	2	3	4	5	Computer Games	1	2	3	4	5
1	2	3	4	5	Word Processing	1	2	3	4	5
1	2	3	4	5	Data Base	1	2	3	4	5
1	2	3	4	5	Spreadsheet	1	2	3	4	5
1	2	3	4	5	Communications	1	2	3	4	5
1	2	3	4	5	Math or Statistics	1	2	3	4	5
1	2	3	4	5	Calendar or Scheduling	1	2	3	4	5
1	2	3	4	5	Accounting or Financial	1	2	3	4	5
1	2	3	4	5	Computer Programming	1	2	3	4	5
1	2	3	4	5	Graphics	1	2	3	4	5
1	2	3	4	5	C.A.D. / C.A.M.	1	2	3	4	5
1	2	3	4	5	Tutorials or C.A.I.	1	2	3	4	5
1	2	3	4	5	Utilities	1	2	3	4	5
1	2	3	4	5	Integrated Packages	1	2	3	4	5
1	2	3	4	5	Other: _____	1	2	3	4	5

During a typical week, how many hours do you spend on the following activities?

Activities not involving the computer

___ "School" work at home
___ "Employment" work at home
___ Watching Television
___ Listening to the Radio
___ Listening to records, tapes, or CD's
___ Talking with friends on the telephone
___ Visiting with friends in person
___ Reading pleasure books or magazines
___ Doing a hobby, art or craft
___ Participating in a club or group activity
___ Participating in a sport or exercise
___ Relaxing (doing nothing at all)
___ Watching a movie, a concert or a play
___ Attending a sporting event

Activities using the computer at home

___ "School" work using the computer
___ "Employment" work with the computer
___ Communicating with an Administrator
___ Communicating with a Teacher
___ Communicating with a Parent
___ Communicating with a Student
___ Using the school's computer network
___ Working on PRODIGY
___ Playing games or other entertainment
___ Using your computer for other purposes (if any, describe below)

_____
_____
_____

In your own words, what is Project Homeroom?

Why did you decide to have your child participate in Project Homeroom?

Thank you for your assistance!

Project Homeroom Student and Parent Survey #4: All Schools

Thank you for participating in Project Homeroom! Your honest responses to this final survey are an important part of the overall evaluation plan. Your name is printed above so we can follow your responses over the course of the Project; however, please be assured that your individual responses will be kept absolutely confidential.

Please answer the following questions based on how you feel today about working with the technology of Project Homeroom.

How much do you use? Rarely				Often	Application	How comfortable are you using? Hardly				Very
1	2	3	4	5	Computer Games	1	2	3	4	5
1	2	3	4	5	Word Processing	1	2	3	4	5
1	2	3	4	5	Data Base	1	2	3	4	5
1	2	3	4	5	Spreadsheet	1	2	3	4	5
1	2	3	4	5	Communications	1	2	3	4	5
1	2	3	4	5	Math or Statistics	1	2	3	4	5
1	2	3	4	5	Calendar or Scheduling	1	2	3	4	5
1	2	3	4	5	Accounting or Financial	1	2	3	4	5
1	2	3	4	5	Computer Programming	1	2	3	4	5
1	2	3	4	5	Graphics	1	2	3	4	5
1	2	3	4	5	C.A.D. / C.A.M.	1	2	3	4	5
1	2	3	4	5	Tutorials or C.A.I.	1	2	3	4	5
1	2	3	4	5	Utilities	1	2	3	4	5
1	2	3	4	5	Integrated Packages	1	2	3	4	5
1	2	3	4	5	Other: _____	1	2	3	4	5

During a recent typical week, how many hours do you spend on the following activities?

Activities not involving the computer

___ "School" work at home
___ "Employment" work at home
___ Watching Television
___ Listening to the Radio
___ Listening to records, tapes, or CD's
___ Talking with friends on the telephone
___ Visiting with friends in person
___ Reading pleasure books or magazines
___ Doing a hobby, art or craft
___ Participating in a club or group activity
___ Participating in a sport or exercise
___ Relaxing (doing nothing at all)
___ Watching a movie, a concert or a play
___ Attending a sporting event

Activities using the computer at home

___ "School" work using the computer
___ "Employment" work with the computer
___ Communicating with an Administrator
___ Communicating with a Teacher
___ Communicating with a Parent
___ Communicating with a Student
___ Using the school's computer network
___ Working on PRODIGY
___ Playing games or other entertainment
___ Using your computer for other purposes (if any, describe below)

_____
_____
_____

Please continue on the reverse side

Have there been any technical problems with your computer equipment? ☐ Yes ☐ No
If YES, please describe what the problem was and tell if it has been resolved:

Please tell us how you used your home computer/modem/printer during this past school year:
Which computer program(s) did you use the most often?

What were you using these programs for (school assignments, pleasure, hobby, etc.)?

Please tell us about the kinds of things you did when using the Prodigy service:
What applications did you use the most often while on Prodigy?

What were you using these applications for (school assignments, pleasure, hobby, etc.)?

Please indicate the number of minutes (approximately) you would spend each day during a typical week using the Prodigy service:

Mon ____ Tue ____ Wed ____ Thu ____ Fri ____ Sat ____ Sun ____

Please tell us about the kinds of things you did when you would log into your school's computer over the telephone line:
What kinds of things did you do the most often when using your school's computer?

What were you using these things for (school assignments, pleasure, hobby, etc.)?

Please indicate the number of minutes (approximately) you would spend each day during a typical week logged into your school's computer over the telephone line:

Mon ____ Tue ____ Wed ____ Thu ____ Fri ____ Sat ____ Sun ____

Please continue on the next page

Project Homeroom has provided opportunities for students to work collaboratively on shared projects. Please describe one example that you worked on (or know of) where students worked together on a Project Homeroom project. Tell us how much you liked or disliked the experience, and why.

Project Homeroom combined learning across several different subject areas (ie. social science, english, etc.). Please describe one example that you worked on (or know of) where students learned about a topic from the point of view of several different subject areas. Tell us how much you liked or disliked the experience, and why.

Project Homeroom provided opportunities for teachers, students, and parents to interact outside of the regular school environment (school building and class hours). Please describe one example where you interacted with a teacher or administrator outside of regular school time. Tell us if you liked interacting with a teacher or administrator outside of school, and why.

Please continue on the reverse side

Other schools are considering putting in their own version of Project Homeroom. What advice could you give to your counterpart (another student or parent) in that school to insure that Project Homeroom is a success?

What have you liked least about Project Homeroom this year?

What have you liked most about Project Homeroom this year?

Given the choice, would you continue with Project Homeroom next year? ☐ Yes ☐ No
Please explain:

Please feel free to add any other comments or suggestions about Project Homeroom below, and to attach additional sheets of paper as needed.

Thank you for your assistance!